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Understanding Internal Capital Markets and Corporate Politics

Abstract

This study looks inside a large retail-banking group to understand how corporate politics affect internal capital allocation. The group consists of a headquarters organization and about 150 member banks which own the headquarters. Our data is from the firm's managerial accounting system and covers all cash flows, internal capital transfers, and investments at the local member bank level. We first show that a member bank's investment (net loan growth) is *generally* not fully independent from its own cash flow (net deposit growth). Then we show that such constraints are not apparent at more influential member banks, where influence is measured by the divergence of voting rights from ownership rights. The more influential banks are allocated more funds from the headquarters, but also show more restraints in investments when experiencing large deposit inflows. Influence matters more among member banks requiring more information exchanges with the headquarters as a result of more volatile funding requests. Influence also matters more for small business loans, which contain more soft information, than for standardized residential mortgage loans. These results suggest that corporate politics can be used to address allocation inefficiencies resulting from information asymmetries between the headquarters and divisions (member banks in our case).

1. Introduction

The allocation of capital within a firm, while central to understanding corporate finance, has not been widely studied, as actual internal capital allocations are usually confidential and investment opportunities are hard to measure and control for. Two recent exceptions are Gopalan, Nanda and Seru (2007) considering intragroup loans in Indian business groups, and Glaser, Lopez-de-Silanes and Sautner (2008) studying the distribution of cash windfalls inside an industrial conglomerate. In this paper, we use a proprietary dataset to study the internal capital market of a large retail-banking group in a well-developed market, and shed light on how the distribution of influence within this group affects the allocation of group resources.

The banking group consists of more than 150 member banks and a headquarters organization. The headquarters is jointly-owned by the member banks, serves to coordinate activities among the member banks, and is their window to external funding markets. The member banks are linked by a cross-guarantee arrangement, are dispersedly owned by their local depositors, and have no government ownership or public policy obligations. They operate in a highly developed and competitive banking market which is quite homogenous in terms of economic, social, and geographical particulars.[1]

Our measure of capital allocation efficiency follows recent literature (e.g., Campello (2002), which also studies banking organizations) and is defined as member banks' investments (i.e., loan growth) not being dependent on their local cash flows (i.e., deposit growth) after controlling for investment opportunities. Our data are from the firm's internal managerial accounting system and allow us to directly observe not only investments and cash flows of each member bank, but also all capital transfers between the group headquarters and the member banks.[2] Moreover, the data include a proxy for the influence of each member bank within the group.

Accounting for investment opportunities which may differ across different parts of the firm (in our case, across member banks) is a major challenge in the literature. Investments, cash flows and internal transfers are endogenously determined, and any variations in investment behavior could be due to unobserved differences in economic circumstances. However, several aspects of our empirical design allow us to mitigate endogeneity concerns.

First, the homogeneity of the member banks within the group facilitates across-bank comparisons. Using the same brand name, all member banks operate with the same business model and use identical

[1] This banking market is considered very competitive according to the index by Claessens and Laeven (2004).

[2] As a result, we avoid many difficulties associated with estimating cash flows, namely that the cash flow measures as typically used in the literature need to be estimated indirectly and might represent accrual accounting net income rather then actual cash flows; see for example the criticism raised by Bushman, Smith and Zhang (2008). Further, internal capital transfers in the group take only the form of loans from and deposits at the headquarters. Capital allocations do not take place through transfer pricing as is often the case in industrial firms.

products and pricing policies. Each member bank operates only in its own local area, thereby largely avoiding competition with other member banks (with larger corporate customers operating throughout the group's market typically being directly served by the group headquarters). Some member banks are larger because they cover a larger area and thus have more branch locations. Given that all member banks offer the same rates for deposits and are not allowed to deviate from these rates to avoid cannibalization within the group, deposit growth can be considered largely exogenous to the member banks and driven mainly by local economic and demographic factors.[3]

Second, while the group's overall market is already highly-homogenous in terms of social and economic development, we further control for variations in local market conditions by employing regional fixed effects that change each time period (i.e., each quarter). As a result, each time period we compare each member bank to the other member banks (on average over one dozen) in its relatively small proximate region (with on average 1.4 million residents in an area of on average only 2,800 km², about one fifth the size of the state of Connecticut but with 1.5 times the population density). As we allow this local economic environment to change each quarter, the effect of local market conditions on loan and deposit growth of banks in the region should be largely captured by these region-quarter fixed effects. Our main results are also robust to the further inclusion of bank fixed effects capturing unobserved bank heterogeneity.

Third, our dataset includes the banking group's own internal standardized measure of member bank performance which captures each bank's productivity and is defined as income over costs. This core variable from the internal management system of the group will further account for differences in investment opportunities.

Our proxy of the role of internal politics aims to measure each member bank's influence inside the organization. We use information on the voting rights and ownership rights share of the member banks in the headquarters to construct for each member bank a measure of its influence within the organization. Hereby, we exploit a mismatch and non-linearity between ownership and voting rights leading to some banks having voting rights disproportionate to their ownership rights. As is common in the corporate governance literature[4], we thus define a bank's (disproportionate) influence by looking at the divergence from one-share-one-vote, i.e., influence is the ratio of a bank's share of voting rights divided by its share of ownership rights in the banking group. A member bank with more voting rights relative to its ownership rights is perceived as more influential because she can bargain for more favors *relative to* her

[3] Empirically, we also find that deposit growth seems to be unrelated to member bank effort, as measured by the number of full-time equivalent working hours put in by the member banks, further supporting the view that deposit growth is largely exogenous to member banks.

[4] See, for example, Claessens, Djankov and Lang (2000), Doidge et al. (2005), Faccio and Lang (2002), Harvey, Lins and Roper (2001), Kim (2004), La Porta, Lopez-de-Silanes and Shleifer (1999), La Porta et al. (2002), Lemmon and Lins (2003), Lins (2003), and Leuz, Lins and Warnock (2006).

ownership share in the group. Note that we also show empirically that our results are driven by the ratio of voting rights to ownership rights and *not* its individual components.

Member banks exercise influence at the headquarters because their votes allow them to decide, among other things, on the composition of the group's supervisory board, which elects the banking group's executive board, and the general strategy of the banking group.

As even the largest member bank has less than 2% of the total voting rights, our influence proxy should not be interpreted as majority dominance but rather as having greater persuasion power within the organization. The US Senate may provide a good analogy. Despite its small size and for historical reasons, Alaska can elect two senators to the 100-member US Senate, like any other state. With a 2% vote share in the Senate, Alaska is certainly not considered as having dominance control. However, it enjoys disproportionate influence because its support can be won over with a smaller favor (which, however, could be substantial relative to its smaller economy) than what California would ask for.

We document several interesting and new empirical results. First, there is an active internal capital market, marked by large and frequent internal loans to, and deposits from, member banks vis-à-vis the headquarters. Net funds from the headquarters partly compensate member banks for lower deposit (i.e., cash flow) growth and are larger if investment opportunities (i.e., bank productivity) are better.[5] While member banks' net loan growth (i.e., investments) is higher for more productive banks with better opportunities, it also depends significantly on their own deposit growth. Thus, generally the internal capital market does not fully insulate loan growth from the local deposit base. To the extent that differences in investment opportunities across member banks are captured, this presents some evidence of capital allocation inefficiencies. However, we cannot completely rule out that this association between loan growth and local deposit growth is partially driven by investment opportunities.

Second, we consider the role of corporate politics for internal capital allocation. Corporate politics and influence activities within a firm can have positive and negative effects on the efficiency of capital allocation, leading to two alternative hypotheses for our study.

Models by Meyer, Milgrom and Roberts (1992), Scharfstein and Stein (2000), Rajan, Servaes and Zingales (2000), and Wulf (2008) suggest that, because of rent seeking activities and power struggles within a firm, internal capital allocations might be based on a division's influence rather than its investment opportunities. Greater influence within a firm therefore leads to overly large allocations by the headquarters and inefficient overinvestment. We call this view the 'rent seeking' hypothesis.

[5] Net funds from the headquarters are defined as the difference between loans from and deposits at the headquarters. Gopalan, Nanda and Seru (2007) also used net funds in their analysis. Moreover, our results do not change if we look at gross funds (loans) from the headquarters instead.

An alternative hypothesis is that information asymmetry between divisions and the headquarters may cause inefficiencies in capital allocations and corporate politics may help mitigate this problem. In a seminal paper in the managerial accounting literature, Harris, Kriebel and Raviv (1982) propose asymmetric information *within* the firm as an essential feature of intra-firm resource allocation. Antle and Eppen (1985) extend this model to explain under-allocation of capital to the divisions as a consequence of information asymmetry and moral hazard. In their model, optimal capital budgeting mechanisms have the following "bang-bang" structure: the division receives no capital if self-reported productivity is below a certain cut-off level, and a fixed amount of capital if above. The amount generally exceeds the funding needed because of the division manager's superior private information vis-à-vis the headquarters. In response, the headquarters finds it beneficial to raise the cut-off productivity level beyond what would have been chosen in a full information environment, leading to under-allocation of capital to the divisions. Rajan and Reichelstein (2004) provide a review of the extensive literature that followed. For example, under-allocation of capital is a also key feature in Bernardo, Cai and Luo (2001, 2004).

In our setting, information asymmetry exists between the headquarters and the member banks regarding their true investment opportunities, potentially leading to under-allocation of capital to the member banks. More influential banks, however, may have better communications with the headquarters and as a result less information asymmetry. [6] The headquarters is less worried that these banks may overstate their investment opportunities, and is therefore more willing to allocate capital to them. We call this the 'information asymmetry' hypothesis.

Consistent with the latter 'information asymmetry' hypothesis, we find strong evidence that (1) more influential member banks are allocated more funds from the headquarters; (2) the investment of more influential banks is less sensitive to their own cash flows; and (3) in particular, that more influential member banks are *less* likely to overinvest in case of large *positive* cash flow shocks. This points to the opposite of the 'rent seeking' hypothesis (in which greater influence leads to overinvestment), and instead supports the 'information asymmetry' hypothesis in which greater influence reduces inefficiencies in allocations by the headquarters.

We also provide some direct evidence in support of the 'information asymmetry' hypothesis using different proxies for the level of information needs and thus the importance of information asymmetry problems. We find that it is especially among members banks that are most exposed to information asymmetry vis-à-vis the headquarters that influence is most relevant. We first measure the level of information asymmetry by sorting banks into high and low deposit growth volatility groups. High deposit volatility creates more volatile funding needs, leading member banks to make more frequent requests for

[6] For example, the more influential member banks may be more likely to have connections to members of the group's board and have their senior executives and board members serve in more important committees at the headquarters.

funding support by the headquarters, which require more scrutiny from the headquarters and more information to justify them than smaller funding requests that are routinely approved. Next, we also measure information asymmetry by separating business lending (which contains more soft information) from personal lending (predominantly residential mortgage loans, which contain mostly hard information).

Third, we document that the more efficient capital allocation for more influential member banks is associated with higher performance. We find that influence (which is historically determined and does not change in our time period) is positively related to current bank productivity, return on equity, and return on assets. Our results are not driven by our measure of influence proxying for ability, as the higher allocation of capital and reduced sensitivity of investments to cash flows occurs for more influential member banks even after accounting for differences in performance. Therefore, we suggest that internal politics inside an organization may have a positive side, i.e. influence, by improving information flow and access at the headquarters, can mitigate allocation inefficiencies caused by information asymmetries.

Fourth, as shown in Figure 1, lending at the aggregate group level is not much affected by fluctuations in deposits: the headquarters seems to be able to smooth out group-level funding shortages by tapping the outside capital markets. The correlation between loans and deposits growth at the member bank level thus suggests that any such frictions are more likely to come from the internal capital allocation process than from frictions between the headquarters and the external capital market.

Finally, we also address the concern by Fama (1980, 1985) that a correlation between loan and deposit growth can arise if banks require that borrowers maintain transaction accounts for monitoring purposes. We show empirically that our results do not seem to be influenced by such a monitoring argument, as our findings are mainly driven by savings account and not by transaction account deposits.[7]

As discussed above, some particular characteristics of this banking group greatly facilitate us in analyzing internal capital allocation decisions (e.g., the observation of internal capital allocations, the homogeneity of the member banks, and the availability of an influence measure). While several of these features might be specific to the banking group, our findings have implications that go well beyond this organization in helping us understand how internal capital markets and corporate politics work.

[7] Banks usually offer transaction and savings accounts for depositors. By monitoring a borrower's transaction accounts through which borrowers manage their day-to-day business (e.g., inventory purchase, account receivable after sales), banks may be able to extract private information. Savings accounts, however, do not provide much useful information. Customers cannot write checks through their savings accounts and can only withdraw from the savings accounts for a limited number of times every month. Also, today's commercial banks focus much less on business lending, and more on loan products which are relatively arms' length and require less relationship-based monitoring. For residential mortgage lending (accounting for more than two third of the loan portfolio in the banking group we study), banks normally do not rely on monitoring the borrower's transaction account deposits to acquire private information. Even for small business lending which accounts for only about one fifth of the group's loan portfolio, credit scoring systems evaluate large volumes of information and transaction account activities are but one of the numerous factors contributing to the lending decisions.

First, corporate politics exist in any organizations, both financial and industrial. The information asymmetry problems between division managers and the headquarters in making capital allocation decisions, and the delicate power balance among division managers, are common and a natural phenomena in the corporate world. We choose to study this banking organization because its corporate politics can be quantified.

Second, this type of banking group is very widespread across the world and of large economic importance. All 27 countries in the European Union, for example, have banking groups that show similar organizational structures, i.e. where the headquarters is owned by the subsidiaries, which in turn have dispersed outside shareholders. By the end of 2006, these groups had in total more than 4,000 member banks operating around 60,000 branches for about 140 million customers. Furthermore, they had total assets of more than 4.6 trillion EUR, and a market share of around 20% in the deposit market.

The remainder of the paper is structured as follows. The next section discusses the economic questions and describes the data on the internal capital market. Section 3 presents the empirical results, and section 4 concludes.

2. Research Questions and Data

2.1 Internal Capital Markets: Hypotheses on Efficiency and Corporate Politics

The literature on capital allocation within firms has identified positive and negative aspects of internal capital markets. On the positive side, internal capital markets may help relieve funding constraints in units where profitable investment opportunities exceed locally generated cash flows (more-money effect). In turn, this may lead to a more efficient allocation of resources (smarter-money effect, see Stein (1997)). In our case, investments (i.e., loans) by member banks should be less related to the local funding position (i.e., cash flows from deposits or bank capital) if the internal capital market is more efficient. Instead, the amounts of loans made should be related mostly to investment opportunities (see Shin and Stulz (1998)). Irrespective of the local funding position, banks should lend out more if investment opportunities are better and less if investment opportunities are worse. In the latter case, an efficient internal capital market would induce member banks to transfer excess deposits of their local customers to the headquarters to make them available to other member banks (with better investment opportunities).

However, internal capital markets may also have a negative side. Agency problems and power struggles within the banking group can generate inefficient allocations among member banks, rewarding, for example, those that exert disproportionate influence over the allocation process and not necessarily those with the best investment prospects. Member banks with more influence would then receive more funding from the headquarters independent of their investment opportunities (see, e.g., Meyer, Milgrom and Roberts (1992), Rajan, Servaes and Zingales (2000), Scharfstein and Stein (2000), and Wulf (2008)).

This is usually considered inefficient as it leads to overinvestment, and we will discuss these models in more detail below.

The measure of capital allocation efficiency used in this paper follows the recent literature (e.g., Houston, James and Marcus (1997), Shin and Stulz (1998), Campello (2002), and Holod and Peek (2006)).[8] Efficiency is thus defined as member banks' investments (i.e., loan growth) not being dependent on their own cash flows (i.e., deposit growth) after controlling for investment opportunities.

Our data are from the firm's own internal managerial accounting system and allow us to directly observe not only investments and cash flows of each member bank, but also all money transfers between the group headquarters and the member banks. As a result, we avoid difficulties associated with estimating cash flows, as in most of the related literature.[9]

Allowing us to analyze the role of internal politics, our data includes a useful proxy of each member bank's influence within the group. Each member bank holds both voting and ownership (i.e., cash flow) rights in the headquarters. We define a bank's (disproportionate) influence as its share of voting rights divided by its share of ownership rights in the banking group. This measure of influence exhibits considerable cross-sectional variation across the member banks, and a further detailed description of this variable is given in the next subsection.

Meyer, Milgrom and Roberts (1992), Scharfstein and Stein (2000), Rajan, Servaes and Zingales (2000), and Wulf (2008) provide theoretical models on how internal capital allocations are affected by internal politics.[10] These models suggest that divisions within industrial firms (or member banks within a

[8] Shin and Stulz (1998) consider whether capital allocations are efficient in US industrial firms by looking at how investments of a division are related to their own cash flows versus that of other divisions in the same firm (as well as to Tobin's Q and sales growth as proxies for investment opportunities). They show that division investments are more sensitive to the own cash flows than to the cash flows of the rest of the firm, which they interpret as inefficient. Campello (2002) compares investment-to-cash-flow sensitivities of stand-alone banks with bank holding group subsidiaries to investigate the efficiency of investment (as measured by net loan growth). He finds that, compared with stand-alone banks, net loan growth of bank-holding companies subsidiaries are less dependent on their own cash flows when monetary policy is tightened. This suggests that internal capital markets in banking groups may insulate banks from the tightening in money supply. Another paper investigating capital allocations in bank holding companies is Houston, James and Marcus (1997) who find that the loan growth of a bank subsidiary is more sensitive to the cash flow of the bank holding company than to its own cash flow. Similarly, Holod and Peek (2006) document that internal capital markets are used to mitigate capital constraints of bank subsidiaries. Billet and Mauer (2003) use a slightly different measure of efficiency and study whether capital is allocated to segments with above firm-average investment opportunities (measured by return on assets and Tobin's Q). Capital allocations are measured indirectly by comparing the after-tax cash flows of a segment with its capital expenditures.

[9] For example, recently, Bushman, Smith and Zhang (2008) argue that the typical proxy or estimate for cash flows in fact serves as a proxy for investments in non-cash working capital, and that as a result, the associated empirical patterns reflect capital investment-working capital investment sensitivities, rather than investment-cash flow sensitivities. Also, in our banking group, capital allocations do not happen through transfer prices as is often the case in industrial firms and which complicates studying internal capital markets in industrial firms. Moreover, member banks can not access external capital markets themselves.

[10] In Scharfstein and Stein (2000), for example, more influential managers ask for too large capital allocation (given their investment prospects) which leads to inefficient overinvestment (inefficient cross-subsidization). In Meyer, Milgrom and Roberts (1992) managers of divisions with poor investment opportunities lobby the headquarters for more funding, and successfully so if they are more influential. Wulf (2008) provides a related model where influence activities lead to inefficient resource allocations.

retail banking group as in our case) prefer larger capital allocations from the headquarters, and that divisions with more influence receive larger allocations regardless of their investment opportunities. The general implication of these models is the 'rent seeking' hypothesis, namely that more influential divisions may overinvest and cause inefficient cross-subsidization.

An alternative hypothesis to this 'dark side' view is that information asymmetry *within* the firm may cause investment inefficiencies, and influence can be used to mitigate this problem. For example, Harris, Kriebel and Raviv (1982) identify asymmetric information *within* the firm as an essential feature of intra-firm resource allocation. Among others, Antle and Eppen (1985) and Bernardo, Cai, and Luo (2001, 2004) show that more asymmetric information within the firm complicates decision making at the headquarters and may lead to inefficient under-allocation of capital (compared with what would have been allocated in a full-information environment) to the divisions (see also Rajan and Reichelstein (2004) for a review of the subsequent and extensive managerial accounting literature influenced by Harris, Kriebel and Raviv (1982)). There are relatively few studies on the empirical side. Among the few, Landier, Nair and Wulf (2007) provide evidence on how communication within the firm affects corporate decision-making.

The alternative 'information asymmetry' hypothesis thus holds that internal politics may be used by the more influential member banks to mitigate asymmetric information problems vis-à-vis the headquarters through better access and communications. As a result, more influential member banks would be allocated more funding from the headquarters and achieve more efficient investments.

2.2 Data Description and Methodology

Despite the importance of the internal capital markets in the corporate finance literature, data limitations have generally complicated the testing of these theories, as it is difficult to explicitly measure divisional influence within a firm.[11]

Our proprietary dataset on the internal capital market of a large banking group is from the firm's own internal managerial accounting system. The banking group consists of more than 150 member banks and a centralized headquarters that is jointly-owned by the member banks. Banks cannot self-select into this group and the group has never acquired banks from the outside (see Campello (2002) for a discussion of possible endogeneity concerns if this would be the case). The government has no ownership or involvement in the group and the group has no public policy obligations in lending. We can observe all relevant internal capital market allocations, plus each member bank's loans (investments) and deposits (cash flows), all on a quarterly basis measured over the period from January 2005 to September 2007.

[11] Rajan, Servaes and Zingales (2000) use a diversity measure to proxy for the 'dark sides' of influence activities and show that rent seeking activities lead to transfer from units with good investment opportunities (proxied by Tobin's Q) to those with worse opportunities. Natividad (2008) uses project-level data on movies from Hollywood studies and shows that influence activities may indeed reduce investment efficiency.

An advantage of studying the internal market of a banking group is that investment flows are relatively continuous.[12] Another advantage is that, unlike industrial firms, a bank's cash flows are generated mainly from retail deposit-taking activities, which are largely independent from the performance of investment activities (i.e., loans). This mitigates a problem documented in the literature, namely that an industrial firm's current profits and cash flows may be naturally correlated with investment opportunities in the near future. In our case, higher deposit inflows are not correlated with better previous investment performance, while (again unlike industrial firms) profits make up only a very minor part of a bank's net cash flows. Therefore, the banking business is a convenient setting for the study of internal capital allocation, being essentially a "money business" in which "real" business activities (e.g., lending and deposit taking) coincide with financial activities (e.g., cash flows, capital allocation).

All member banks of the group have an identical business model and pricing schedule, except that local conditions can create cross-region variations in funding and investment opportunities (and thus funding gaps). Specifically, all member banks offer the same rates for deposits and are not allowed to deviate from these rates to avoid a cannibalization within the group. The rates are calculated and suggested by the headquarters and published on the internet and in all branches (on identical forms). All banks offer identical products, marketing, and product design.

As a result, comparisons across member banks are less problematic than comparisons of different divisions in a typical non-financial conglomerate. Our empirical design is hence not exposed to many of the problems documented in the literature on non-financial conglomerates and capital allocations therein (e.g., the problems resulting from inconsistent and objective reporting of segment data, see Villalonga (2004)).

A. The Internal Capital Market

The group operates an internal capital market, which allows member banks to manage funding deficits and surpluses among themselves. All banks have three sources of funding: local deposits, retained earnings, and headquarters funding (capital allocations). As banks are highly leveraged, retained earnings are much less important compared to the other two funding sources. The funding from the headquarters arrives in the form of internal loans on which all banks pay the same interest rates independent of their risk. Member banks cannot access the external capital market themselves, nor are they allowed to invest their cash surpluses outside the firm. Member banks can invest their funds either in loans to customers in

[12] In industrial firms, capital expenditures are usually discrete because of the substantial minimum size of new investment projects (e.g., plants, equipments, products) and long planning cycles prior to actual capital disbursements. This is particularly problematic in high frequency data as there may be a significant time lag between the planning, financing and building of an industrial facility. For example, an oil refinery built today could be planned five years ago without considering the financing conditions today. For banks, however, investment levels can be adjusted rapidly by relatively small increments (by extending new loans and recalling old loans).

their local market or deposit any surplus funds at the headquarters. The headquarters provides reference rates to the member banks for loans to customers.

The headquarters of the group is relatively financial unconstrained and has excellent access to the external capital markets, as evidenced by its top credit rating and continued access to money markets during the current global financial turmoil. As the member banks are offering the same rates for the same deposit products and we do not find any evidence that total full-time working hours at a member bank is correlated with deposit growth[13], the supply of local deposits can be considered largely exogenous to the member banks' efforts, and influenced mainly by local economic and demographic conditions, competition with banks outside the group, as well as macroeconomic factors. We also control for these factors by using geographic region-time fixed effects that change each quarter.

The detailed data from the internal accounting system of the group includes all transactions between the headquarters and the member banks. Specifically, we directly observe the funds which are transferred either from the headquarters to member banks or vice versa. Such data are typically not available from public sources. The data further includes a wide range of internal variables on the normal business activities of the banks, such as data on loans, deposits and profitability of banks. The core productivity variable, "Bank Productivity," is also used by the group for internal performance assessment and is defined as the ratio of income over costs. Additional measures of profitability in our data are return on assets (ROA) and return on equity (ROE).

B. Measure of Member Bank Influence

The headquarters of the banking group is jointly-owned by member banks. We have information on the voting as well as ownership rights of the member banks in the headquarters. We use this information to construct a proxy for a member bank's influence within the organization. [14] (Disproportionate) 'influence' is defined as a member bank's voting rights share in the group divided by

[13] Banks facing more lending opportunities may undertake more effort to collect deposits. However, this may not affect our results for both theoretical and empirical reasons. First, empirically the number of hours worked each period at each of the member banks is not positively related to loan or deposit growth. In fact, we find a (sometimes marginally significant) negative coefficient. Therefore, if the number of hours worked (either standardized by total assets or not) is a proxy for effort, we do not find that more effort leads to greater loan or deposit growth. Second, a member bank experiencing a strong loan demand has two ways to fund it: (1) exert more effort / work harder or (2) call the headquarters for money. If the bank works harder this presumably comes at extra costs (e.g., overtime pay for staff) and is inefficient when the headquarters has resources available to fund these opportunities. Moreover, the argument implies that banks were exerting inefficiently low levels of effort under normal circumstances. In short, a correlation between deposit and loan growth may still be an indication of inefficiency even if effort is higher when opportunities are good. For example, a correlation between effort and opportunities would also imply that if there is less demand for lending opportunities, member banks would exert less effort to raise deposits. From the group's perspective, this is inefficient if other member banks could use those additional deposits for their own lending opportunities.

[14] The geographical distance between a member bank and the headquarters might be an alternative measure of influence. However, the relatively small size of the region and a highly developed transport system make it unlikely that geographic proximity to the headquarters matters. In fact, when we use geographical distance instead of our influence variable we do not find any significant effects.

its ownership rights share. Using the divergence from one-share-one-vote to measure disproportionate influence is common practice in the corporate governance literature, which generally finds that voting rights in excess of ownership rights are associated with private benefits (see, e.g., Claessens, Djankov and Lang (2000), Doidge et al. (2005), Faccio and Lang (2002), Harvey, Lins and Roper (2001), Durnev and Kim (2004), La Porta, Lopez-de-Silanes and Shleifer (1999), La Porta et al. (2002), Lemmon and Lins (2003), Lins (2003), and Leuz, Lins and Warnock (2006)).

Through their voting rights, member banks can apply influence on the headquarters and decide, among other things, on the composition of its supervisory board. This board elects the banking group's executive board, and determines the general strategy of the banking group**.** With a total number of votes in the group equal to 1,165 and the maximum number of votes of a member equal to 10, even the largest bank has less than 2% of the overall voting rights. As a result, our influence proxy should not be interpreted as meaning overall dominance but rather greater influence within the organization (given a certain ownership position). The US Senate may provide a good analogy illustrating the idea behind our measure. Despite its small size, the state of Alaska can elect two senators to the 100-member US Senate. With a 2% vote share in the Senate, Alaska certainly cannot be considered as having dominance control. However, it may enjoy influence disproportionate to its size because its support can be won over with a smaller favor (which, however, can be substantial relative to its smaller economy) than what, for example, the much bigger California would ask for.

A certain number of votes were assigned to a member bank historically for her size and ownership rights at that time. Today, larger member banks generally still control more votes (see Figure 3-A), but mismatches between voting rights and ownership rights exist for a variety of reasons unrelated to performance. This happens, first, because irrespective of the number of shares a bank owns, the smallest member banks are given *at least* 1 vote while the largest member banks are assigned *at most* 10 votes. Second, as fractional votes are not possible, a member bank whose size and ownership rights narrowly qualifies her for 7 votes would control the same voting rights as another bank, whose larger size would almost qualify her for 8 votes. Third, the voting rights structure in this banking group was determined historically and has generally not been updated even if banks have grown differently (neither have voting or ownership rights changed in our sample period).

Ownership rights are related to past bank size and allow member banks to share the profits and losses of the headquarters activities. When voting rights and ownership rights diverge, a bank may not internalize all of the consequences of an internal capital market allocation decision. Therefore, a value of the influence variable (i.e., the share of voting rights divided by the share of ownership right) that is larger (smaller) than 1 indicates that a bank has disproportionally more (less) influence within the organization and may be able to bargain for more (less) headquarters support than its ownership rights would deserve.

For illustration, consider a larger bank and a smaller bank, both controlling seven votes (which is typical, as half of the member banks have six or seven votes; see Figure 2). There are two alternative ways to think about the smaller bank's disproportionate influence. First, the smaller bank has more incentive to use her voting rights to obtain private favors from the headquarters, because she does not internalize the costs to the headquarters as much as the larger bank. Therefore, the smaller bank is more eager to conduct influence activities. Second, although both banks have seven votes, the smaller bank, because of her smaller size, can be satisfied with fewer resources in an absolute sense, and thus usually make a smaller request to the headquarters for favors. From the perspective of the headquarters, it is easier to accommodate the smaller bank's request. Therefore, the smaller bank is more likely to receive favors when requested. To sum up, the smaller bank is more influential and successful in obtaining resources from the headquarters, because she has more votes relative to her ownership rights and size.

Figures 3-A and 3-B depict the non-linear relationship between member bank size, their voting rights, ownership rights, and influence within the group. Size is measured as the total assets of a bank. All values are taken at the end of our sample (i.e., third quarter of 2007). Figure 3-B illustrates a negative correlation of -53% between influence and size. However, a lot of variation in the influence proxy is not explained by size and we show in the subsequent analysis that our influence results are not driven by this correlation. We do so by directly controlling for size as well as by estimating regressions separately for different size group samples. We will also show that our influence results are robust to separately controlling for ownership and voting rights.

C. Controlling for Investment Opportunities

Accounting for investment opportunities which may differ across member banks is a major challenge in investment-cash flow regressions. Changes in loan growth could be driven by unobserved differences in local economic circumstances faced by different member banks. However, two aspects of our empirical design allow us to mitigate these endogeneity concerns: the use of regional fixed effects that change each quarter, and controlling for bank productivity.

As previously discussed, the homogeneity of member banks within the group and their local markets facilitates across-bank comparisons. We divide the overall market of the banking group into a dozen regions. The average region inhabits 1.4 million people in a relatively small area of about 2,800 km² (about 1,100 square miles, i.e., one-fifth the size of Connecticut) and is highly homogenous in terms of social and economic development. Each regression specification includes regional fixed effects that change each quarter and that can arguably control well for local conditions affecting local investment opportunities. Effectively, we thereby compare a member bank in any given quarter to other nearby member banks (on average over one dozen) in the same quarter.

As a second means to mitigate unobserved heterogeneity concerns, we always control for the banking group's own internal measure of efficiency: a member bank's productivity. This core productivity variable from the internal management system of the group will further capture differences in investment opportunities.

Besides these two remedies, the identical deposit pricing policy for all member banks within the group also allows us to consider changes in the deposit supply as largely exogenous to a member bank (see Section 2.2). As an additional robustness check, we also add - whenever possible - bank fixed effects to the region-quarter fixed effects to further account for unobserved bank heterogeneity. Bank fixed effects cannot be included when we study the direct effect of influence, as the influence variable is time-invariant. They can be included, however, when we study the interaction effects of influence, in which case only the interaction term and not the influence measure on its own is included in the regression. To account for intra-bank autocorrelations in the panel, all tables use robust standard errors clustered at the bank level.

D. Descriptive Statistics

Panel A of Table 1 provides descriptive statistics of the member banks in our sample. Definitions of all variables can be found in Appendix A1 and a correlation table in Appendix A2. Our sample consists of almost 2,000 bank-quarter observations, measured from January 2005 to September 2007.

Not surprisingly, the main source of member bank funding comes from deposits (57%) by customers in the local market. Deposits consist mainly of savings deposits (43%) but also of term (3%) and transaction account deposits (11%). The main form of investments of a member bank is loans (80%) to its customers, and in particular personal loans (mostly residential mortgage loans). The banking group's internal performance assessment measure ("Bank Productivity") has an average value of 1.35 and a standard deviation of 0.17. Larger banks perform better as can be seen by the positive and significant correlation between Bank Productivity and the log of total assets. The influence variable has an average of 1.24, and its standard deviation of 0.42 indicates significant cross-sectional variation. Banks hold on average 6.4 voting rights (votes) in the headquarters and have an average ownership share of 0.54%.

Panel B of Table 1 summarizes the importance and size of the internal capital market. There are significant two-way fund transfers within the group. Funds from the headquarters constitute on average 30% of the total funding of a member bank (the rest are deposits and equities). The average bank deposits 11% of total assets at the headquarters. As a result, *net* funds from the headquarters are equal to 19% of total assets. These ratios vary across banks. On average, 94% of the banks are net receivers of funds from the headquarters while only 6% are net providers. Therefore, member banks rely significantly on funding

from the headquarters to expand lending beyond their local deposit supply. The net funds from the headquarters grow by 2.8% on a quarterly basis.

3. Empirical Results

3.1 Net Funds from the Headquarters to the Member Banks

Our empirical analysis starts by describing the functioning of the internal capital market. Specifically, Table 2 looks at what can explain capital allocations within the banking group. We consider two alternative measures of intragroup capital allocations, (1) the ratio of net funds from the headquarters divided by member bank total assets (in Panel A); and (2) the growth rate in net funds from the headquarters (in Panel B). In the first three regressions, the explanatory variables are local deposit growth, bank size, solvency, and bank productivity. Bank Size is the log of total assets. Solvency is a measure of capital constraints and calculated as the ratio of the actual capital of a bank to what is required for banking supervision purposes.

The results in Table 2 show that member banks with lower local deposit growth receive more funding from the headquarters. We find this negative association for both measures of internal capital allocation across different specifications, suggesting that the headquarters (at least partly) compensates member banks when they face low deposit growth and hence low local cash flow. In Appendix A3, we decompose net funds from headquarters into gross funds from headquarters and gross deposit at the headquarters: those results suggest that changes in both components contribute to the above findings.

The significant bank productivity variable in Table 2 shows that the allocations in the internal capital market pay some attention to the investment opportunities of banks. Banks which are more productive, and thus may have better investment opportunities, generally receive more funding from the headquarters.[15]

Next, we study whether more influential banks receive more funds from the headquarters. This analysis, using influence as a proxy, provides us with some first insights on whether capital allocations are related to corporate politics inside the organization. We therefore regress funds from the headquarters on the influence variable after controlling for bank size, investment opportunities, deposit growth, and solvency.

The estimates are reported in columns 3-7 of Table 2 (in Panel A for net funds from the headquarters and in Panel B for the growth rate in net funds from the headquarters). The results in Panel A show that consistent with rent seeking models of internal capital markets, more influential banks receive significantly more funds from the headquarters. The effect of influence on internal capital allocation is

[15] Using the results in column 1 of Panel A that employ region-time fixed effects, a one standard deviation difference in Bank Productivity is associated with a difference in Net HQ Funds / Total Assets of (0.17*0.197=) 3.3%.

also economically large. Based on the coefficient estimate from column 3, an increase in our influence variable by one standard deviation is associated with an increase in the ratio of net funds from the headquarters to total assets by 0.42*0.137=0.058. This is equal to an increase in Net Funds from the HQ/Total Assets by almost 20% relative to its mean (0.058/0.30=0.19). As none of the member banks of the group is allowed to access the external capital markets directly, their difference in reliance on internal funding cannot be explained by some member banks' superior access to non-retail-deposit funding from external sources.

To mitigate concerns that our results are driven by variation in ownership or voting rights rather than by variation in our influence measure itself, the regressions in columns 5-7 directly control for both ownership and voting rights, on top of our influence measure. The estimates show that our influence measure itself produces the correlation we observe, rather than its individual components, i.e., voting rights or ownership rights. We also find that larger banks seem to receive more funding from the headquarters. As bank size is negatively correlated with our influence measure, regression results controlling for bank size (in columns 3, 5, and 6) in general show greater effects for influence (than in columns 4 and 7).

It is important to note that, in Panel B, unlike the dynamic effect of member bank productivity on short-term changes in headquarters funding allocation, we cannot detect an effect of influence on the quarterly growth rate of net funds from headquarters. Therefore, a member bank's influence within the group has a long-term impact on its capital structure, i.e., on the ratio of headquarters funding relative to total assets, but does not seem to affect quarter-to-quarter short-term fluctuations in headquarters funding.[16] This observation is consistent with anecdotal evidence suggesting that influence matters more for large, strategic allocation decisions rather than for small technical allocation decisions.

3.2 The Effects of the Internal Capital Market on Net Loan Growth

In Table 3 we analyze the investments of the member banks, as measured by their net loan growth. In particular, we ask (i) whether the internal capital market can insulate the investment of banks from its local deposit supply and (ii) whether the higher allocations of capital from the headquarters to the more influential banks are associated with more or less inefficiencies in the internal capital market.

[16]Appendix A3 complements the analysis of Table 2 and decomposes net funds from the headquarters in its two components: (gross) funds from the headquarters and deposits at the headquarters. More influential member banks receive more funds from the headquarters not only in net terms (after subtracting their deposits) but also in gross terms. Moreover, less influential member banks deposit more money at the headquarters. This could suggest that less influential member banks deposit funds at the headquarters in an attempt to (partially) hedge against future deposit shortfalls given that the headquarters does not give them sufficient support in such situations. Acharya, Almeida and Campello (2007) use similar arguments to explain why financially constrained firms hold cash instead of repaying their debt. However, as the previous results have shown, these precautionary actions do not seem to be sufficient to insulate investments sufficiently from fluctuations in local deposits growth.

Following the banking literature, we measure investment of banks by looking at their net loan growth (see, e.g., Houston, James and Marcus (1997) or Campello (2002)). Each dollar of net loan growth needs to be financed by cash flows either from local sources (new deposits, matured loans, or profits) or from the headquarters. From an efficiency perspective, a bank should invest regardless of its local funding position if it has valuable investment opportunities and the banking group has sufficient resources (see Shin and Stulz (1998)).

To test whether the internal capital market insulates loan growth from local deposit growth, we regress net loan growth on net deposit growth as well as a set of controls. We again aim to control for investment opportunities by including region-quarter fixed effects and Bank Productivity in our panel regressions. In addition, we follow the methodology in Campello (2002) and include the lagged value of net loan growth to further control for bank-specific growth opportunities. Additional controls are the log of total assets, growth in bank capital, the measure of capital constrains (Solvency), and loan loss provisions over total assets.

The results in columns 1 and 2 of Table 3 (Panel A) show that locally generated funds (deposit growth) have some effect on net loan growth. While the banking group operates an active internal capital market (see Table 2), member bank investment is not *fully* insulated from the local deposit base. This implies that member banks experiencing negative deposit growth may have to forego some valuable investment opportunities, while member banks experiencing positive deposit growth may somewhat overinvest without offering the surpluses through the internal capital market to other member banks with relatively more valuable investment opportunities.

However, we notice that the coefficient size for deposit growth is quite small economically. We will show later in our more important results that the small average effect masks sharply different outcomes for high and low influence banks. Note that we do not have any prior expectations on the size or sign of the coefficient on deposit growth if we do not account for differences in bank influence. We are more interested how the coefficient differs across high and low influence banks. Our focus is therefore on understanding how influence affects capital allocation, i.e., whether the higher allocation of capital to more influential banks as documented in Table 2 is associated with more or less allocation inefficiencies in the internal capital market. To test empirically for the efficiency effect of influence, we modify the regression specifications in the first two columns of Tables 3 to allow for the loan-to-deposit sensitivity to vary across banks and to depend on the influence of a bank (see columns 3-7 of Panel A of Table 3).

The results provide strong evidence that more influential member banks exhibit a *lower* sensitivity of their investments to their own internal cash flows. First, adding the interaction of deposit growth and influence greatly increases the coefficient on deposit growth by itself, from 0.056 (column 1) to 0.273

(column 3). Second, the coefficient on the interaction of deposit growth and influence is significantly negative (-0.146 in column 3).

We find economically meaningful evidence of possible inefficient capital allocations for member banks with low influence. According to coefficients from column 3, for a member bank with a value of influence equal to 1 (i.e., no deviation from one share one vote) a positive one standard deviation shock to deposit growth is associated with a 3.8%*(0.273 – 0.146*1) = 0.48% increase in loan growth, which is almost one third of its standard deviation. The corresponding effect is even greater (0.76%) for a less influential member bank with influence equal to 0.5, but slightly negative and close to zero (–0.07%) for a more influential bank with an influence value equal to 2.

Finally, the economically and statistically significantly negative coefficient on the interaction of deposit growth and influence is robust to adding the interactions of deposit growth and ownership rights as well as deposit growth and voting rights (columns 6 and 7). Therefore, the results on influence are not driven by variation in either ownership or voting rights themselves, but rather by variation in their ratio.

In Panel B we decompose deposit growth by products types into transaction account deposit growth, term deposits growth, and savings deposit growth, and find that investment is mainly sensitive to changes in savings deposits. The results show that changes in transaction account deposits, compared with changes in savings account deposits, have only a negligible impact on loan growth. This rules out the Fama (1980, 1985) explanation that a correlation between loans and deposits might naturally arise as banks require borrowers to maintain a transaction account with the banks for monitoring purposes. The results then provide further support for the effect of member bank influence by showing that influence reduces the investment sensitivity most strongly for saving deposits growth (columns 3 and 4).

Later in Section 3.4, we will also show that neither the correlation between influence and bank size nor our influence variable proxying for performance or ability is driving the above results. Also, to make sure that our influence results do not just pick up the non-linearity between influence and size, Appendix A4 reports regressions where we separate our sample based on bank size at the beginning of the sample period (Panel B reports the results for loan growth while Panel A contains results for net HQ funds). The estimates show that our results are robust to such a size separation and hence unlikely to be driven by a non-linearity in the influence-size relationship. For further robustness, Appendix A4 also includes the results when we consider subsamples based on the banks' voting and ownership rights, respectively. Again, our results are robust to such separations.

3.3 Asymmetrical Responses to Positive and Negative Deposit Shocks

This section further examines how the internal capital market of the group reacts to large positive and negative shocks to the deposit growth of member banks. We create a dummy variable labeled Positive

(Negative) Shock that indicates a positive (negative) shock to deposit growth of a bank in a given quarter. We consider two different measures of deposit shocks, namely deposit growth rates that are either one or one-half a standard deviation above (below) the sample median. Figure 4 illustrates the time series of the deposit shocks. Using the one standard deviation measure, there are in total 184 positive and 102 negative deposit shocks. We also consider directly the asymmetric effect of positive and negative deposit growth, where the variable Deposit Growth^{+} takes the value of the deposit growth rate if positive and zero if negative, and Deposit Growth^{-} takes the absolute value of deposit growth rate if negative and zero if positive.

Table 4 analyzes the effects of these deposit shocks on the internal capital allocation. The dependent variable is again either the ratio of net funds from the headquarters to bank total assets (column 1-3) or the growth in net funds from the headquarters (column 4-6).

The results in Table 4 show that the internal capital market reacts symmetrically to both positive and negative deposit shocks experienced by member banks. The positive coefficient on Negative Shock indicates that funding from headquarters (both in terms of level and growth rates) increases as a response to a sharp shortfall in local deposits. Conversely, net funds from headquarters decline when member banks experience positive deposit shocks. The latter finding suggests that the headquarters takes away some of the surplus funds that arise locally due to positive shocks.

Next, we consider the efficiency of capital allocations under large deposit shocks, i.e. whether the increase in funding from the headquarters during a negative deposit shock is big enough to insulate local loan growth from the lower deposit base. In Table 5, we regress net loan growth on the same deposit shock variables as in Table 4, plus their interactions with member bank influence. The results show that, despite the fact that banks borrow more from the headquarters if they experience negative local deposit shocks, the assistance from the internal capital market is far from sufficient in insulating lending from these negative shocks. Although the headquarters funding infusion can relieve some shortage, banks experiencing adverse cash flow shocks lower their loan growth.

Then we introduce the role of corporate politics into the regression. Interestingly, we find that the effect of influence is asymmetric. The estimates show that influence matters most when a bank receives a large positive deposit shock: more influential banks are more likely to restrain their loan growth while less influential banks boost lending after a positive deposit shock. The coefficients suggest that, for a member bank with an influence measure value of 1 or higher, the response of loan growth to a large positive deposit shock is likely to be not significantly different from zero. However, for less influential banks, the correlation between loan growth and positive deposits shocks is significantly positive. This asymmetry is not consistent with a traditional 'rent seeking' story which would suggest that more influence leads to overinvestment in the presence of large positive deposit shocks.

Rather, it may support the idea of better information flow between the headquarters and the more influential member banks. Recall our previous result that more influential member banks receive more funding from the headquarters. Those results are consistent with an understanding between more influential banks and the headquarters: the latter entrusts more funds to the more influential banks to allow them to expand beyond the limit of their local deposit supply (see Section 3.1), while as a 'quid pro quo' these banks restrain from overinvesting when experiencing positive deposit shocks. The situation is opposite for less influential banks. They receive less funding from the headquarters (Section 3.1), and instead have to choose the timing of their loan expansion based on the arrival of positive deposit shocks (possibly resulting in inefficient overinvestment).

Later in Section 3.5, we hypothesize that better access to the headquarters by the more influential banks could explain this difference. If information asymmetry problems between the member banks and the headquarters hamper efficient capital allocation, the more influential banks can use their influence and connections to mitigate such problems. However, the lack of significance for the interaction of influence with negative deposit shocks is a puzzle (and remains so in Section 3.5).

As a robustness check for the previous analysis and to consider a possible non-linearity, we decompose our influence variable into two dummy variables, Influence Q1 and Influence Q4, which take the values one if a bank is in the bottom (Q1) or top (Q4) influence quartile. The results are reported in Table 6 and confirm our previous findings and suggest that our results are driven by the most influential banks in the organization. Banks whose influence is in the 4^{th} quartile are able to get larger fund allocations from the headquarters, are better insulated from the local deposit base, and hence show the lowest sensitivity of investments to their own cash flows.

3.4 The Effect of Bank Performance on Internal Capital Allocation

Allocation of capital based on member bank productivity would raise the overall efficiency and return on capital of the banking group. Efficient allocation of resources within an internal capital market should move funding to member banks whose investment opportunities are brighter and should reward member banks who are more productive. In this section, we examine whether the headquarters indeed allocates capital in such an efficient way and whether more productive banks are less constrained by their own cash flow. We also study whether our results on the effect of member bank influence are robust to specifications where we allow the investment-cash flow sensitivities to vary with bank performance measures as well. The latter exercise is conducted to make sure that our results are not driven by influence proxying for ability.

Our main measure of bank performance is obtained from the group's internal accounting system. Specifically, the Bank Productivity variable is an income-over-cost ratio, which measures how well a

member bank is turning input (costs) into output (income) in its lending activities. This can also be interpreted as a measure of a bank's investment opportunities, as more productive banks can produce higher returns for a given investment. As a robustness check, we also consider ROA and ROE as alternative measures of bank performance.

In Table 2, we found that more productive banks, measured by Bank Productivity, ROA or ROE, receive more funding from the headquarters, both in the level and in the growth rate. In Table 7, we examine whether the sensitivity of net loan growth to deposit growth varies across banks with good and poor performance. As indicated, theories suggest that member bank's investments should not be sensitive to their own cash flows if the internal capital market allocates funding based on investment opportunities and can relieve the financing constraints for member banks experiencing a cash flow shortage. We are interested in whether more productive banks benefit more from the internal capital market, as evidenced by a lower investment-to-cash-flow sensitivity for more productive banks.

We simultaneously control for productivity and influence to test whether our influence results are merely driven by differences in ability. The results first show that for banks which are relatively more productive (using Bank Productivity and ROE), net loan growth is not only significantly faster but also significantly less sensitive to their own deposit growth.

We further find that the effect of bank influence on capital allocation, as documented previously in Section 3.2, not only stays significant but is also stronger in these regressions that control for the effect of Bank Productivity, ROE or ROA. These results suggest that the allocation of capital in the internal capital market responses to both influence and productivity, and banks' investments are more independent from their own cash flows when they are either more influential or more productive. Overall, the results confirm that our results on the effect of influence are not driven by our influence measure proxying for ability.

As an additional robustness check, Table 7 also shows that our influence results are robust to including an interaction of bank size (a measure of economies of scale) and deposit growth (columns 4 and 8). In unreported regressions we also replace the contemporaneous levels of a bank's productivity by its average level during the sample period to mitigate concerns that our productivity measure is endogenous to the funding constraint situation faced by a bank and may not actually reflect investment opportunities. Our results do not change when we use this alternative measure of productivity.

3.5 Member Bank Influence and Information Asymmetry Problems

Our findings so far point to the 'information asymmetry' hypothesis, i.e. that greater influence results in a better information flow between the headquarters and a bank. This leads to more funding from the headquarters and more efficient allocations and investments at more influential banks. If influence

mitigates asymmetries of information within the banking group, we should expect that influence is particularly efficiency enhancing at banks where information asymmetries are particularly high. To directly test this conjecture, we examine the differential effects of influence across subsamples: (i) we sort member banks based on their level of information asymmetry vis-à-vis the headquarters and (ii) we divide loans into types subject to high and low levels of information asymmetry.

First, we separate our sample into banks with high and low levels of information asymmetry vis-à-vis the headquarters. As loan growth volatility can be endogenous to a bank's access to headquarters funding, we use deposit growth volatility, the standard deviation of a bank's deposit growth (calculated over the sample period), as a proxy. We do recognize that deposit growth is observable and verifiable by the headquarters. However, our motivation for this proxy is as follows. A more volatile deposit growth is associated with greater fluctuations in the funding gaps (i.e., funding deficit or surplus between investment opportunities and local deposit growth). Such banks therefore experience very large funding deficits more frequently (rather than smaller funding requests that are routinely approved by the headquarters). Larger requests receive more scrutiny and need to be justified with more detailed information about investment opportunities. This presumably increases the importance for information flows between the member bank and the headquarters. Therefore, for two banks with the same level of structural funding deficits over the long-term, the one with more volatile local deposit growth is more exposed to information asymmetry vis-à-vis the headquarters.

Furthermore, a high volatility in deposit growth could also reflect uncertainty in the general economic environment of a bank's local market, where greater uncertainty about the local economy may create more information asymmetries between the member banks and the headquarters.

Table 8 looks at the effect of member bank influence on net funds from the headquarters for banks showing high and low levels of asymmetric information. We separate the sample in columns 1-4 based on whether the standard deviation of deposit growth is below (low asymmetries) or above (high asymmetries) its sample median, and in column 5 and 6 on whether it is in the lowest or highest quartile group. The estimates show that the effect of influence is stronger at banks where information asymmetries vis-à-vis the headquarters are the greatest. Notably, greater influence leads to more allocations, but the effect is almost twice as large for top quartile high information asymmetry banks (column 6) as for bottom quartile low information asymmetry banks (column 5).

To analyze the efficiency effects of influence for banks with different levels of information asymmetries, Panel A of Table 9 reports loan growth regression for banks showing high and low levels of asymmetric information. We again separate the sample based on whether the standard deviation of deposit growth is below (low asymmetries) or above (high asymmetries) its sample median, and on whether it is

in the lowest or highest quartile group.[17] The results provide strong evidence consistent with the 'information asymmetry' hypothesis and show that greater influence significantly reduces the sensitivity of investment to the own cash flows only in the subsample of banks where information asymmetries may be the greatest.

In the subsamples of banks with low levels of information asymmetry (columns 1, 3, 5, 7, and 9), the coefficient on deposit growth interacted with influence is significant in none of the specifications. For the subsample of banks where our proxy suggests greater information asymmetry, the same interaction terms are significant in all cases, controlling for region-time fixed effects (columns 2, 6, and 10) and for bank fixed effects as well (columns 4 and 8). In particular, the coefficient is more than twice as large for high information asymmetry banks as for low information asymmetry banks when we examine large deposit shocks (column 6 vs. 5, and column 8 vs. 7), and more then ten time as large when we compare top quartile (column 10) with bottom quartile (column 9) information asymmetry banks. Overall, these results suggest that member bank influence affects the loan-to-deposit sensitivity the most when information asymmetry is the greatest. In unreported regressions, we also use the age of a member bank as a measure of information asymmetries (assuming that information asymmetry problems are smaller for older member banks), and find that our results are also very similar.

Second, we decompose loan growth into its two subcomponents, i.e. business loan growth and personal loan growth. Personal loans, according to the banking group's definition, include mainly residential mortgage loans and consumer loans, with the lion share being residential mortgage loans. The evaluation and approval process of such loans are relatively standard and contain little subjective information. In the banking group, large corporate loans are handled by the headquarters, and therefore, most business loans at the member banks are small business loans. These business loans tend to be more soft-information-intensive and it is hence more difficult for the headquarters to verify local bank managers' claims of investment opportunities and creditworthiness and to evaluate their decisions. Liberti and Mian (2008), for example, look into the paper trails of corporate loan evaluation files and document the difficulty of passing soft (i.e., abstract and subjective) information up the hierarchy in a large banking corporation. Therefore, the 'information asymmetry' hypothesis would predict that member bank influence has a stronger effect for business loans vs. personal loans.

The regressions in Panel B of Table 9 show that this is indeed the case. Columns 1-4 use business loan growth as the dependent variable, while columns 5-8 use personal loan growth. If we compare, for example, the regression estimates in column 4 (business loan growth) and 8 (personal loan growth), we can see that influence has an effect that is about twice as large for business loan growth as for personal

[17] To conserve space, we do not report all specifications for the regressions with the two quartiles. However, the results are the same as for the below/above median separation.

loan growth. The coefficient estimates suggest that, conditional on a positive deposit shock, an increase in influence by one standard deviation affects business loan growth by 2.197*0.42 = 0.923% but only 0.489*0.42 = 0.205% for personal loans. These results suggest that, facing positive deposit shocks, less influential banks are more likely to expand their business lending (probably resulting in inefficient overinvestment) vis-à-vis their personal lending while more influential banks show relative restraints from doing so. The incentive for less influential banks to rush on personal loans (which are mostly residential real estate loans and contain mostly hard information) may be smaller because it seems less difficult for any member banks (influential or not) to convince the headquarters with hard information when investment opportunities on residential real estate loans arise.

We hypothesize that less influential banks seize positive deposit shocks as opportunities to expand because the headquarters generally allocates fewer funds to them (see Table 2, Panel A), making them more constrained by their own cash flows (i.e., deposit growth). More influential banks are likely to have better communications with the headquarters, (consequently) enjoy higher headquarters funding levels to begin with, and are more willing to return unexpected surplus cash to the headquarters.

3.6 Member Bank Influence and Performance

In the previous sections, we document that member bank influence plays an important role in determining resource allocation in the internal capital market of the group. For example, more influential member banks receive more funding from the headquarters and their net loan growth is less affected by the own deposit growth. Such an advantage resulting from greater influence may help them better respond to and more fully exploit investment opportunities. With more limited assistance from the headquarters, less influential banks in contrast may need to forgo good investment opportunities when internal cash flows fall short and may over-invest in lower-return projects when cash flows are relatively abundant. The cumulative effect of this may be that more influential banks are more productive and produce higher returns on capital.

To investigate these issues, we run regressions of different measures of bank performance on our measure of influence and a set of controls. The results are reported in Table 10. As performance measures we use bank productivity (Banking Productivity, columns 1-2), return on equity (ROE, columns 3-4), and return on assets (ROA, columns 5-6), respectively. The regressions document that more influential banks also exhibit a significantly higher performance, for all three alternative measures of bank performance. The regressions further show that larger, better capitalized, and faster-growing banks exhibit better performance. With regard to the economic effect, a one standard deviation increase in influence is associated with a 0.068 increase in bank productivity, a 0.61% increase in Return on Equity (ROE), and a

0.025% increase in Return on Assets (ROA). The standard deviation of bank productivity, ROE, and ROA are 0.17, 2.55%, and 0.203%, respectively.

All regressions again include region-time fixed effects, and are thus effectively comparing banks operating within very narrowly-defined local markets facing similar market conditions (such as investment opportunities and retail deposit supply). Our evidence suggests that influence may be an important and independent determinant of bank performance.

The causality is unlikely to go the other way around. The power structure within the group was largely shaped in the remote past (e.g., the structure has not changed for over 20 years) when headquarters funding and headquarters decisions in general may not have been as important as they are now. In the past, greater retail deposits supply may have made local funding largely sufficient for local investment opportunities, creating less needs for funding from the headquarters. As the shortage of retail deposit supply and the rapid expansion of credit seems a recent phenomenon, it its unlikely that member banks could have expected the possibility of structural funding deficits and the importance of headquarter decisions in the future when bargaining for their share of the power within the group.

4. Conclusions

In this paper, we look into the internal capital market of a large retail-banking group to study how corporate politics affect internal capital allocation. The group consists of a headquarters organization and about 150 member banks which own the headquarters. As a proxy for the role of internal politics we use a member bank's disproportionate influence (i.e., divergence from one-share-one-vote) inside the organization. Following the related literature, the measure of capital allocation efficiency is defined as member bank's investments (i.e., loan growth) not being dependent on their local cash flows (i.e., deposit growth). We carefully control for investment opportunities, for example through region-time fixed effects and the group's internal performance measure.

We document an active internal capital market. Net funds from the headquarters partly compensate member banks for lower deposit growth and are larger if investment opportunities are better. While member banks' net loan growth is higher for more productive banks with better opportunities, it also depends significantly on their own deposit growth. Thus, the internal capital market does not fully insulate loan growth from the local deposit base. To the extent that differences in investment opportunities across member banks are captured, this presents some evidence of capital market inefficiencies.

We then consider the role of internal politics for internal capital allocation and provide evidence that capital allocation efficiency is improved for the more influential member banks: they receive more funds from the headquarters and their investment is less sensitive to their own cash flows. Consistent with the view that influence could mitigate information asymmetry problems by improving information flow

between the member bank and the headquarters, we find that greater influence reduces investment inefficiencies more at those banks where information asymmetries vis-à-vis the headquarters are likely to be most severe, and more for loan categories where information asymmetries are most important (i.e., loans containing more soft information).

The effect of influence is asymmetric as it especially reduces greater investments in case of positive cash flow shocks. More influential banks are allocated more funding from the headquarters, but they also show more restraint from overinvestment when receiving large positive cash flow shocks. Less influential banks, in contrast, receive fewer headquarters funds, and potentially because of this, have to seize opportunities of positive local deposit shocks to expand lending. This is consistent with the information asymmetry hypothesis in which under-allocation of capital to the divisions results from information asymmetries regarding true investment opportunities between the headquarters and the divisions (i.e., member banks).

Finally, the more efficient capital allocation to more influential member banks is associated with higher performance; influence is positively related to bank productivity, ROE and ROA. Our results are unlikely to be driven by our measure of influence proxying for ability, as the reduced sensitivity of investments to cash flows occurs for more influential banks even after controlling for bank performance.

References

Acharya, V., H. Almeida, and M. Campello, 2007, Is cash negative debt? A hedging perspective on corporate financial policies, *Journal of Financial Intermediation* 16, 515-554.

Antle, R., and G. Eppen, 1985, Capital rationing and organizational slack in capital budgeting, *Management Science* 31, 163-174.

Bernardo, A. E., H. Cai and J. Luo, 2001, Capital budgeting and compensation with asymmetric information and moral hazard, *Journal of Financial Economics* 61 (3), 311-344.

Bernardo, A. E., H. Cai and J. Luo, 2004, Capital budgeting in multidivision firms: Information, agency, and incentives, *Review of Financial Studies* 17, 739-767.

Billet, M. T. and D. C. Mauer, 2003, Cross-subsidies, external financing constraints, and the contribution of the internal capital market to firm value, *Review of Financial Studies* 16 (4), 1167-1201.

Bushman, R., A. Smith, and F. Zhang, 2008, Investment-cash flow sensitivities are really investment-investment sensitivities, Working Paper, University of North Carolina, University of Chicago and Yale University.

Campello, M., 2002, Internal capital markets in financial conglomerates: Evidence from small bank responses to monetary policy, *Journal of Finance*, 57 (6), 2773-2805.

Claessens, S., S. Djankov and L. Lang, 2000, The separation of ownership and control in East Asian corporations, *Journal of Financial Economics* 58 (1-2), 81-112.

Claessens, S., L. Laeven, 2004, What drives banking competition? Some international evidence, *Journal of Money Credit and Banking* 36 (3), 563-583

Doidge, C., G. A. Karolyi, K. V. Lins, D. P. Miller, and R. M. Stulz, 2005. Private Benefits of Control, Ownership, and the Cross-Listing Decision, *Journal of Finance*, forthcoming.

Durnev, A., and E. H. Kim, 2004, To steal or not to steal: Firm attributes, legal environment and valuation, *Journal of Finance* 60(3), 1461 – 1493.

Faccio, M. and L. Lang, 2002, The ultimate ownership of Western European corporations, *Journal of Financial Economics* 65, 365-395.

Fama, E., 1980, Banking in the theory of finance, *Journal of Monetary Economics* 6, Jan., 39-57.

Fama, E., 1985, What's different about banks? *Journal of Monetary Economics* 15, 29-39.

Glaser, M., F. Lopez-de-Silanes, and Z. Sautner, 2008, Looking inside a conglomerate: Efficiency of internal capital allocation and managerial power within a firm, Working Paper, University of Amsterdam.

Gopalan, R., V. Nanda, and A. Seru, 2007, Affiliated firms and financial support: Evidence from Indian Business Groups, *Journal of Financial Economics* 86, 75-795.

Harris, M., C. H. Kriebel and A. Raviv, 1982, Asymmetric information, incentives and intrafirm resource allocation, *Management Science* 28 (6), 604-620.

Harvey, C. R., K. V. Lins and A. H. Roper, 2001, The effect of capital structure When expected agency costs are extreme, *Journal of Financial Economics* 74(1), 3-30.

Holod, D. and J. Peek, 2006, Capital constraints, asymmetric information, and internal capital markets in banking: New evidence, Working Paper, SUNY at Stony Brook University and University of Kentucky.

Houston, J., C. James, and D. Marcus, 1997, Capital market frictions and the role of internal capital markets in banking, *Journal of Financial Economic* 46, 135-164.

Kim, E. H., 2004, To steal or not to steal: Firm attributes, legal environment and valuation, *Journal of Finance* 60(3), 1461 – 1493.

La Porta, R., F. Lopez-de-Silanes, and A. Shleifer, 1999, Corporate ownership around the world, *Journal of Finance* 54, 471-518.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer and R. Vishny, 2002, Investor protection and corporate valuation, *Journal of Finance* 57(3), 1147-1170.

Landier, A., V. B. Nair and J. Wulf, 2007, Trade-offs in staying close: Corporate decision making and geographic dispersion, *Review of Financial Studies*, forthcoming.

Lemmon, M. L., and K. V. Lins, 2003, Ownership structure, and firm value: Evidence from the East Asian financial crisis, *Journal of Finance* 58, 1445-1468.

Leuz, C., K. V. Lins, and F. E. Warnock, 2006. Do foreigners invest less in poorly governed firms?, *Review of Financial Studies*, forthcoming.

Liberti, J., A. Mian, 2008, Estimating the effect of hierarchies on information use, *Review of Financial Studies*, forthcoming

Lins, Karl, 2003, Equity ownership and firm value in emerging markets, *Journal of Financial and Quantitative Analysis* 38, 2003, 159-184.

Meyer, M., P. Milgrom, and J. Roberts, 1992, Organizational prospects, influence costs, and ownership changes, *Journal of Economics and Management Strategy* 1(1), 10-35.

Natividad, G., 2008, The organizational efficiency of internal capital markets, Working Paper, NYU Stern.

Rajan, M. V., and S. Reichelstein, 2004, A perspective on "asymmetric information, incentives and intrafirm resource allocation", *Management Science* 50 (12), 1615-1623.

Rajan, R., H. Servaes, and L. Zingales, 2000, The cost of diversity: The diversification discount and inefficient investment, *Journal of Finance*, 55(1), 35-80.

Scharfstein, D. S., and J. Stein, 2000, The dark side of internal capital markets: Divisional rent-seeking and inefficient investment, *Journal of Finance*, 55(6), 2537-2564.

Shin, H.-H., and R. M. Stulz, 1998, Are internal capital markets efficient?, *Quarterly Journal of Economics*, 113(2), 531-552.

Stein, J.C., 1997, Internal capital markets and the competition for corporate resources, *Journal of Finance* 52, 111-133.

Villalonga, B., 2004, Diversification discount or premium: New evidence from the business information tracking series, *Journal of Finance* 59, 479-506.

Wulf, J., 2008, Influence and inefficiency in the internal capital market, *Journal of Economic Behavior and Organization*, forthcoming.

Table 1
Summary Statistics of Bank and Internal Capital Market Characteristics

Panel A provides summary statistics of the member banks in our sample. It reports both the panel (overall) as well as cross-sectional (between) standard deviations. For definitions of the variables see Appendix A1. Correlations between the main variables are reported in Appendix A2. We use quarterly data for the period Q1 2005 to Q3 2007. The total number of observations is 1991. Term Deposits Growth, Business Loan Growth, and Personal Loan Growth are winsorized at 5%. Panel B provides details on the capital flows from and to the headquarters (HQ). Funds from HQ are the funds (loans) extended by the headquarters to the member banks in the group. Deposits at HQ are the funds deposited by member banks at the headquarters. Net HQ Funds is the difference between loans from the headquarters and deposits at the headquarters. Net HQ Funds Growth is winsorized at 5%.

Panel A: Bank Characteristics

Variable	Mean	Median	Panel STD	Cross-Sect. STD	5%	95%
Deposits/Total Assets	0.57	0.57	0.08	0.08	0.44	0.70
Transaction Account Deposits/Total Assets	0.11	0.11	0.03	0.03	0.08	0.17
Term Deposits/Total Assets	0.03	0.01	0.04	0.02	0.00	0.10
Saving Deposits/Total Assets	0.43	0.43	0.08	0.07	0.30	0.55
Deposit Growth (in %)	1.87	1.63	3.78	0.79	-2.36	6.79
Transaction Account Deposit Growth (in %)	2.25	2.12	10.68	1.60	-11.85	16.23
Term Deposit Growth (in %)	35.93	19.63	61.75	12.87	-54.34	191.21
Savings Deposit Growth (in %)	-0.34	0.14	3.01	0.72	-5.58	3.47
Loans/Total Assets	0.80	0.81	0.04	0.04	0.73	0.85
Net Loan Growth (in %)	2.13	1.98	1.63	0.82	0.09	4.63
Business Loan Growth (in %)	1.59	1.37	2.58	1.08	-2.79	7.28
Personal Loan Growth (in %)	2.21	2.09	1.19	0.70	0.23	4.71
Personal Loans/Total Assets	0.55	0.56	0.08	0.07	0.43	0.67
Bank Capital/Total Assets	0.05	0.05	0.02	0.02	0.03	0.08
Bank Capital Growth (in %)	1.40	0.00	3.87	0.85	-0.28	8.87
Bank Productivity	1.35	1.34	0.17	0.15	1.10	1.62
Solvency	1.40	1.43	0.25	0.24	1.01	1.77
Loan Loss Provisions/Total Assets (in %)	0.050	0.012	0.115	0.033	-0.080	0.259
ROE (in %)	8.65	8.78	2.55	1.79	4.45	12.25
ROA (in %)	0.406	0.386	0.203	0.108	0.126	0.773
Influence	1.24	1.15	0.42	0.42	0.68	2.01
Ownership Rights (in %)	0.54	0.49	0.29	0.29	0.18	1.10
Voting Rights	6.44	7.00	1.72	1.72	4.00	9.00
Year of Foundation	1906	1904	9	9	1897	1916
STD Deposit Growth	3.13	2.62	2.32	2.33	1.67	5.41

Panel B: Internal Capital Market Characteristics

Variable	Mean	Median	Panel STD	Cross-Sect. STD	5%	95%
Funds from HQ (in 1000 EUR)	370,000	307,000	291,000	286,000	70,800	862,000
Funds from HQ/Total Assets	0.30	0.30	0.09	0.09	0.15	0.44
Funds from HQ Growth (in %)	2.19	2.06	5.78	1.78	-8.80	13.82
Deposits at HQ (in 1000 EUR)	126,000	107,000	87,300	83,500	32,600	283,000
Deposits at HQ/Total Assets	0.11	0.10	0.03	0.03	0.07	0.17
Deposits at HQ Growth (in %)	2.41	0.00	11.33	2.21	-19.62	26.78
Net HQ Funds (in 1000 EUR)	245,000	188,000	245,000	240,000	-10,700	641,000
Net HQ Funds/Total Assets	0.19	0.20	0.11	0.11	-0.01	0.36
Net HQ Funds Growth (in %)	2.84	2.52	10.81	4.37	-20.97	22.86
Net Provider of Funds	0.06					
Net Receiver of Funds	0.94					

Table 2
Member Bank Influence and Net Funding from the Headquarters

This table looks at the determinants of net funding from the headquarters (intragroup capital allocations). In Panel A, the dependent variable is net funds from the headquarters (defined as loans from the headquarters minus deposits at the headquarters) divided by total assets of a member bank. In Panel B, the dependent variable is growth in net funds from the headquarters. This variable is winsorized at 5%. For definitions of the variables see Appendix A1. Our measure of influence is the disproportionate influence of a member bank in the group. It is defined as the share of voting rights divided by the share of ownership rights of a member bank in the headquarters. The regressions use quarterly data from Q1 2005 to Q3 2007. All standard errors are clustered at the member bank level. Constants were included in the regressions but are not reported. Absolute values of robust t statistics are reported in parentheses, * denotes significant at 10%; ** significant at 5%; *** significant at 1%.

Panel A:

	Net Funds HQ Funds/Total Assets						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Deposit Growth	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003
	(3.93)***	(7.41)***	(4.86)***	(4.09)***	(4.86)***	(5.03)***	(4.42)***
Influence			0.137	0.054	0.134	0.146	0.116
			(4.71)***	(3.40)***	(4.04)***	(4.27)***	(3.58)***
Voting Rights						-0.022	0.019
						(1.61)	(2.53)**
Ownership Rights					-0.009	0.021	0.005
					(0.25)	(0.52)	(0.13)
Log(Total Assets)	0.001	0.098	0.074		0.076	0.131	
	(0.13)	(1.78)*	(3.94)***		(3.83)***	(3.34)***	
Solvency	-0.207	-0.091	-0.150	-0.207	-0.149	-0.149	-0.168
	(8.28)***	(3.87)***	(6.47)***	(8.10)***	(6.49)***	(6.45)***	(7.24)***
Bank Productivity	0.197	0.013	0.125	0.185	0.124	0.127	0.141
	(5.46)***	(0.75)	(3.22)***	(5.16)***	(3.21)***	(3.32)***	(3.54)***
Region-Time-Fixed Effects	YES	YES	YES	YES	YES	YES	YES
Bank Fixed Effects	NO	YES	NO	NO	NO	NO	NO
Clustering by Bank	YES	YES	YES	YES	YES	YES	YES
Observations	1810	1810	1810	1810	1810	1810	1810
R-squared	0.54	0.43	0.63	0.57	0.63	0.63	0.61

Panel B:

	Net HQ Funds Growth						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Deposit Growth	-1.317	-1.319	-1.315	-1.316	-1.314	-1.319	-1.316
	(4.65)***	(4.42)***	(4.65)***	(4.65)***	(4.64)***	(4.64)***	(4.64)***
Influence			-1.038	-0.623	-0.452	-0.003	-0.241
			(1.13)	(1.01)	(0.37)	(0.00)	(0.20)
Voting Rights						-0.793	-0.468
						(1.52)	(2.11)**
Ownership Rights					1.919	3.051	3.005
					(1.08)	(1.57)	(1.55)
Log(Total Assets)	0.198	-4.683	-0.364		-0.865	1.055	
	(0.53)	(0.48)	(0.70)		(1.38)	(0.72)	
Solvency	-5.046	-24.904	-5.462	-5.192	-5.612	-5.569	-5.738
	(4.44)***	(4.52)***	(4.75)***	(4.89)***	(4.90)***	(4.84)***	(5.15)***
Bank Productivity	7.037	5.482	7.537	7.255	7.619	7.675	7.793
	(5.02)***	(1.40)	(4.95)***	(5.20)***	(5.11)***	(5.22)***	(5.28)***
Region-Time-Fixed Effects	YES	YES	YES	YES	YES	YES	YES
Bank Fixed Effects	NO	YES	NO	NO	NO	NO	NO
Clustering by Bank	YES	YES	YES	YES	YES	YES	YES
Observations	1682	1682	1682	1682	1682	1682	1682
R-squared	0.49	0.52	0.49	0.49	0.49	0.49	0.49

Table 3
Member Bank Influence and the Sensitivity of Net Loan Growth to Deposit Growth

Panel A of this table presents regressions of net loan growth (in %) on deposit growth and a set of control variables for the member banks in our sample. Our measure of influence is the share of voting rights divided by the share of ownership rights of a member bank in the headquarters. Panel B decomposes deposit growth into its components, i.e. transaction account deposits growth, term deposits growth and savings deposits growth. For definitions of the variables see Appendix A1. The regressions use quarterly data from Q1 2005 to Q3 2007. All standard errors are clustered at the bank level. Constants were included in the regressions but are not reported. Absolute values of robust t statistics are reported in parentheses, * denotes significant at 10%; ** significant at 5%; *** significant at 1%.

Panel A:	**Net Loan Growth**						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Deposit Growth	0.056	0.035	0.273	0.201	0.270	0.187	0.130
	(1.88)*	(1.27)	(3.76)***	(2.82)***	(3.70)***	(1.31)	(0.94)
Influence			0.084		0.116	0.059	
			(0.37)		(0.40)	(0.20)	
Deposit Growth* Influence			-0.146	-0.111	-0.145	-0.110	-0.107
			(3.79)***	(2.77)***	(3.75)***	(1.65)*	(1.69)*
Voting Rights					-0.132	-0.131	
					(1.22)	(1.20)	
Ownership Rights					0.060	-0.033	
					(0.13)	(0.07)	
Deposit Growth * Voting Rights						-0.001	0.011
						(0.06)	(0.69)
Deposit Growth * Ownership Rights						0.079	-0.022
						(0.55)	(0.16)
Bank Capital Growth	-0.017	-0.008	0.020	0.024	0.021	0.016	0.016
	(0.96)	(0.49)	(1.21)	(1.31)	(1.24)	(0.94)	(0.93)
Log(Total Assets)	-0.066	4.292	-0.145	3.967	0.209	0.196	3.837
	(0.87)	(1.57)	(1.12)	(1.44)	(0.65)	(0.62)	(1.38)
Solvency	-1.426	-5.662	-1.441	-5.568	-1.432	-1.442	-5.622
	(4.14)***	(3.90)***	(3.78)***	(4.07)***	(3.74)***	(3.69)***	(4.06)***
Bank Productivity	1.635	0.866	1.570	0.664	1.577	1.593	0.690
	(4.59)***	(1.14)	(4.11)***	(0.90)	(4.14)***	(3.97)***	(0.95)
Loan Loss Provisions/Total Assets	-45.180	-0.773	-36.034	-0.640	-0.359	-0.392	-0.694
	(0.89)	(1.23)	(0.72)	(1.04)	(0.73)	(0.80)	(1.14)
Lag Net Loan Growth	0.210	-0.029	0.203	-0.027	0.200	0.200	-0.025
	(4.20)***	(0.72)	(3.90)***	(0.67)	(3.88)***	(3.94)***	(0.65)
Region-Time-Fixed Effects	YES	YES	YES	YES	YES	YES	YES
Bank Fixed Effects	NO	YES	NO	YES	NO	NO	YES
Clustering by Bank	YES	YES	YES	YES	YES	YES	YES
Observations	1629	1629	1629	1629	1629	1629	1629
R-squared	0.21	0.15	0.23	0.16	0.23	0.23	0.16

Panel B:	**Net Loan Growth**			
	(1)	(2)	(3)	(4)
Transaction Account Deposits Growth	0.008	0.006	0.026	0.018
	(1.90)*	(1.60)	(2.07)**	(1.60)
Term Deposits Growth	-0.0002	-0.0001	0.002	0.002
	(1.03)	(0.75)	(2.46)**	(2.28)**
Savings Deposits Growth	0.106	0.078	0.310	0.252
	(2.00)**	(1.56)	(2.66)***	(2.11)**
Influence			-0.239	
			(0.97)	
Transaction Account Deposits Growth * Influence			-0.012	-0.008
			(1.61)	(1.18)
Term Deposits Growth * Influence			-0.001	-0.001
			(2.82)***	(2.38)**
Savings Deposits Growth * Influence			-0.153	-0.127
			(2.60)**	(2.12)**
Bank Capital Growth	-0.004	-0.001	0.002	0.005
	(0.30)	(0.04)	(0.14)	(0.41)
Log(Total Assets)	-0.049	4.709	-0.153	4.524
	(0.62)	(1.77)*	(1.12)	(1.71)*
Solvency	-1.398	-5.529	-1.464	-5.326
	(4.13)***	(4.05)***	(3.85)***	(4.26)***
Bank Productivity	1.623	0.881	1.729	1.235
	(4.42)***	(1.17)	(4.10)***	(1.46)
Loan Loss Provisions/Total Assets	-0.504	-0.746	-0.598	-0.754
	(1.02)	(1.23)	(1.21)	(1.23)
Lag Net Loan Growth	0.209	-0.028	0.209	-0.021
	(4.13)***	(0.71)	(4.18)***	(0.55)
Region-Time-Fixed Effects	YES	YES	YES	YES
Bank Fixed Effects	NO	YES	NO	YES
Clustering by Bank	YES	YES	YES	YES
Observations	1629	1629	1629	1629
R-squared	0.22	0.15	0.23	0.17

Table 4
The Internal Capital Market and Positive/Negative Deposit Shocks

This table looks at the effects of deposit shocks on the funding from the headquarters (intragroup capital allocations). The dependent variable in columns 1-3 is net funds from the headquarters divided by total assets of a member bank. In columns 4-6 the dependent variable is growth in net funds from the headquarters (in %). This variable is winsorized at 5%. Positive Shock is a dummy that indicates a positive shock to deposit growth of a member bank in a given quarter. It is defined as an increase in deposit growth by either one standard deviation (columns 1 and 4) or by one-half standard deviation (column 2 and 5) above the median. Negative Shock is a dummy that indicates a negative shock to deposit growth of a member bank in a given quarter. It is defined as a decrease in deposit growth by one standard deviation (columns 1 and 4) or by one-half standard deviation (column 2 and 5) below the median. Deposit Growth $^{+}$ is a variable that takes the values of Deposit Growth if positive and 0 otherwise. Deposit Growth $^{-}$ is a variable that takes the absolute values of Deposit Growth if negative and 0 otherwise. Our measure of influence is the share of voting rights divided by the share of ownership rights of a member bank in the headquarters. For definitions of the other variables see Appendix A1. The regressions use quarterly data from Q1 2005 to Q3 2007. All standard errors are clustered at the member bank level. Constants were included in the regressions but are not reported. Absolute values of robust t statistics are reported in parentheses, * denotes significant at 10%; ** significant at 5%; *** significant at 1%.

	Net Funds HQ Funds/Total Assets			**Net HQ Funds Growth**		
	(1)	(2)	(3)	(4)	(5)	(6)
Measure of Positive/Negative Shock:	1 STD Shock	0.5 STD Shock	+/– Deposit Growth	1 STD Shock	0.5 STD Shock	+/– Deposit Growth
Positive Shock	-0.023	-0.010		-10.350	-9.155	
	(3.16)***	(1.59)		(12.16)***	(14.49)***	
Negative Shock	0.016	0.009		9.790	8.204	
	(1.82)*	(2.33)**		(10.54)***	(12.29)***	
Deposit Growth $^{+}$			-0.003			-1.616
			(1.65)*			(5.46)***
Deposit Growth $^{-}$			0.003			0.798
			(1.54)			(3.86)***
Influence	0.137	0.137	0.137	-1.169	-0.977	-0.452
	(4.72)***	(4.69)***	(4.91)***	(1.18)	(1.00)	(0.43)
Log(Total Assets)	0.074	0.074	0.074	-0.172	-0.329	-0.015
	(3.96)***	(3.93)***	(4.08)***	(0.31)	(0.57)	(0.02)
Solvency	-0.149	-0.149	-0.150	-5.053	-5.850	-5.982
	(6.38)***	(6.37)***	(6.49)***	(4.32)***	(5.05)***	(4.91)***
Bank Productivity	0.125	0.125	0.125	7.164	7.754	7.177
	(3.19)***	(3.18)***	(3.28)***	(4.49)***	(4.93)***	(4.34)***
Region-Time-Fixed Effects	YES	YES	YES	YES	YES	YES
Bank Fixed Effects	NO	NO	NO	NO	NO	NO
Clustering by Bank	YES	YES	YES	YES	YES	YES
Observations	1810	1810	1810	1682	1682	1682
R-squared	0.62	0.62	0.63	0.44	0.52	0.50

Table 5
Member Bank Influence and the Asymmetric Response of Loan Growth to Positive and Negative Deposit Shocks

This table looks at the effects of deposit shocks on net loan growth. The dependent variable in the reported regressions is net loan growth of a member bank (in %). Positive Shock is a dummy that indicates a positive shock to deposit growth of a member bank in a given quarter. It is defined as an increase in deposit growth by either one standard deviation (columns 1 - 4) or by one-half standard deviation (columns 5 - 8) above the median. Negative Shock is a dummy that indicates a negative shock to deposit growth of a member bank in a given quarter. It is defined as a decrease in deposit growth by one standard deviation (columns 1 - 4) or by one-half standard deviation (columns 5 - 8) below the median. Deposit Growth^{+} is a variable that takes the values of Deposit Growth if positive and 0 otherwise. Deposit Growth^{-} is a variable that takes the absolute values of Deposit Growth if negative and 0 otherwise. Our measure of influence is the share of voting rights divided by the share of ownership rights of a member bank in the headquarters. For definitions of the other variables see Appendix A1. The regressions use quarterly data from Q1 2005 to Q3 2007. All standard errors are clustered at the member bank level. Constants were included in the regressions but are not reported. Absolute values of robust t statistics are reported in parentheses, * denotes significant at 10%; ** significant at 5%; *** significant at 1%.

	Net Loan Growth											
Measure of Positive/	1 STD Shock				0.5 STD Shock				+/– Deposit Growth			
Negative Shock:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Positive Shock	0.090	-0.187	1.884	1.280	0.273	0.106	1.235	0.933				
	(0.39)	(0.84)	(3.07)***	(2.13)**	(1.97)*	(0.74)	(3.53)***	(2.64)***				
Negative Shock	-0.507	-0.482	-0.857	-0.698	-0.254	-0.257	-0.673	-0.439				
	(1.99)**	(2.04)**	(1.25)	(1.02)	(2.16)**	(2.40)**	(2.13)**	(1.63)				
Deposit Growth $^{+}$									0.025	-0.004	0.214	0.108
									(0.76)	(0.13)	(3.00)***	(1.37)
Deposit Growth $^{-}$									-0.126	-0.118	-0.405	-0.416
									(1.72)*	(1.84)*	(1.65)*	(1.72)*
Positive Shock * Influence			-1.397	-1.134			-0.745	-0.638				
			(3.47)***	(2.93)***			(3.18)***	(2.54)**				
Negative Shock * Influence			0.269	0.168			0.336	0.144				
			(0.53)	(0.34)			(1.37)	(0.63)				
Deposit Growth $^{+}$ * Influence											-0.126	-0.075
											(3.33)***	(1.66)*
Deposit Growth $^{-}$ * Influence											0.192	0.200
											(1.48)	(1.51)
Influence			-0.031				-0.108				0.047	
			(0.13)				(0.45)				(0.18)	
Bank Capital Growth	0.002	0.004	0.003	0.006	0.005	0.006	0.006	0.009	-0.044	-0.038	0.007	0.015
	(0.14)	(0.35)	(0.25)	(0.58)	(0.41)	(0.61)	(0.47)	(0.87)	(1.25)	(1.33)	(0.25)	(0.51)
Log(Total Assets)	-0.070	5.166	-0.141	4.913	-0.063	4.714	-0.150	4.580	-0.067	5.022	-0.131	4.724
	(0.89)	(1.92)*	(1.02)	(1.81)*	(0.81)	(1.75)*	(1.13)	(1.70)*	(0.85)	(1.89)*	(0.99)	(1.76)*
Solvency	-1.491	-5.521	-1.521	-5.444	-1.407	-5.643	-1.485	-5.640	-1.513	-5.410	-1.507	-5.305
	(4.14)***	(3.85)***	(3.79)***	(3.85)***	(4.03)***	(3.88)***	(3.80)***	(3.89)***	(4.05)***	(4.10)***	(3.76)***	(4.33)***
Bank Productivity	1.614	0.763	1.623	0.656	1.575	0.797	1.623	0.721	1.687	0.898	1.586	0.672
	(4.37)***	(1.04)	(3.98)***	(0.91)	(4.34)***	(1.10)	(4.01)***	(1.00)	(4.46)***	(1.22)	(4.12)***	(0.94)
Loan Loss Provisions/Total Ass.	-0.492	-0.810	-0.503	-0.809	-0.508	-0.801	-0.575	-0.830	-0.483	-0.781	-0.373	-0.611
	(0.93)	(1.26)	(0.94)	(1.27)	(0.97)	(1.24)	(1.10)	(1.28)	(0.94)	(1.26)	(0.75)	(1.00)
Lag Net Loan Growth	0.211	-0.032	0.214	-0.026	0.209	-0.032	0.208	-0.030	0.216	-0.024	0.207	-0.026
	(4.17)***	(0.81)	(4.19)***	(0.66)	(4.14)***	(0.80)	(4.04)***	(0.74)	(4.41)***	(0.63)	(4.02)***	(0.65)
Region-Time-Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank Fixed Effects	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES
Clustering by Bank	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1629	1629	1629	1629	1629	1629	1629	1629	1629	1629	1629	1629
R-squared	0.20	0.15	0.21	0.16	0.21	0.15	0.21	0.15	0.21	0.15	0.23	0.17

Table 6
Robustness Checks: Comparing the Top and Bottom Quartile Banks in Terms of Influence

This table looks at the effects of different influence quartiles on funding from the headquarters (intragroup capital allocations) and net loan growth. In column (1), the dependent variable is net funds from the headquarters (defined as the difference between loans from the headquarters and deposits at the headquarters) divided by total assets of a bank. In column (2), the dependent variable is growth in net funds from the headquarters. In columns (3) and (4), the dependent variable is net loan growth (in %). Our measure of influence is the share of voting rights divided by the share of ownership rights of a member bank in the headquarters. Influence Q1 and Influence Q4 are dummies for banks that are in the bottom or top influence quartile. For definitions of the variables see Appendix A1. The regressions use quarterly data from Q1 2005 to Q3 2007. All standard errors are clustered at the bank level. Constants were included in the regressions but are not reported. Absolute values of robust t statistics are reported in parentheses, * denotes significant at 10%; ** significant at 5%; *** significant at 1%.

	Net HQ Funds/Total Assets	**Net HQ Funds Growth**	**Net Loan Growth**	**Net Loan Growth**
	(1)	(2)	(3)	(4)
Deposit Growth	-0.003	-1.315	0.096	0.073
	(4.29)***	(4.64)***	(3.26)***	(2.73)***
Influence Q1	-0.028	0.364	-0.168	
	(1.76)*	(0.57)	(0.99)	
Influence Q4	0.088	-0.265	0.241	
	(4.58)***	(0.39)	(1.56)	
Deposit Growth* Influence Q1			0.090	0.071
			(1.18)	(0.99)
Deposit Growth* Influence Q4			-0.118	-0.106
			(3.23)***	(2.65)***
Bank Capital			0.014	0.022
			(0.76)	(1.14)
Log(Total Assets)	0.050	-0.070	-0.036	4.030
	(3.22)***	(0.13)	(0.32)	(1.47)
Solvency	-0.181	-5.254	-1.407	-5.500
	(7.30)***	(4.39)***	(3.84)***	(4.14)***
Bank Productivity	0.132	7.333	1.537	0.727
	(3.40)***	(4.93)***	(4.05)***	(1.02)
Loan Loss Provisions/Total Assets			-0.453	-0.708
			(0.90)	(1.14)
Lag Net Loan Growth			0.202	-0.030
			(3.92)***	(0.74)
Region-Time-Fixed Effects	YES	YES	YES	YES
Bank Fixed Effects	NO	NO	NO	YES
Clustering by Bank	YES	YES	YES	YES
Observations	1810	1682	1629	1629
R-squared	0.60	0.49	0.23	0.17

Table 7
After Controlling for Performance and Size, More Influential Banks Still Have A Smaller Deposit Sensitivity of Loan Growth

This table examines loan growth for well and poorly managed banks. The dependent variable in all regressions is a bank's net loan growth (in %). Bank performance is measured as bank productivity, return on equity (ROE) or return on assets (ROA). For definitions of the variables see Appendix A1. The regressions use quarterly data from Q1 2005 to Q3 2007. All standard errors are clustered at the bank level. Constants were included in the regressions but are not reported. Absolute values of robust t statistics are reported in parentheses, * denotes significant at 10%; ** significant at 5%; *** significant at 1%.

	Net Loan Growth							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Deposit Growth	0.645	0.454	0.278	0.097	0.662	0.409	0.210	-0.112
	(4.79)***	(3.76)***	(3.37)***	(0.14)	(8.15)***	(7.66)***	(4.31)***	(0.30)
Deposit Growth * Bank Productivity	-0.261				-0.322			
	(4.45)***				(6.31)***			
Deposit Growth * ROE		-0.016				-0.018		
		(2.49)**				(5.40)***		
Deposit Growth * ROA			-0.009				-0.018	
			(0.12)				(0.33)	
Deposit Growth * Log(Total Assets)				0.008				0.014
				(0.25)				(0.85)
Influence	0.053	0.240	0.229	0.078				
	(0.24)	(1.10)	(1.08)	(0.33)				
Deposit Growth * Influence	-0.161	-0.187	-0.146	-0.142	-0.132	-0.159	-0.112	-0.105
	(4.14)***	(4.00)***	(3.63)***	(3.72)***	(5.88)***	(6.51)***	(4.55)***	(4.40)***
Bank Capital Growth	-0.004	-0.037	0.015	0.018	-0.009	-0.043	0.018	0.019
	(0.22)	(1.30)	(0.89)	(1.06)	(0.52)	(2.23)**	(1.05)	(1.10)
Log(Total Assets)	-0.186	-0.102	-0.049	-0.159	3.980	3.645	4.126	3.818
	(1.37)	(0.82)	(0.41)	(0.98)	(2.83)***	(2.63)***	(2.93)***	(2.66)***
Solvency	-1.513	-1.574	-1.564	-1.444	-5.556	-5.971	-5.657	-5.605
	(3.74)***	(3.93)***	(4.05)***	(3.73)***	(8.26)***	(8.87)***	(8.30)***	(8.20)***
Bank Productivity	2.153			1.580	1.651			0.677
	(4.29)***			(3.97)***	(2.41)**			(1.00)
ROE		0.140				0.139		
		(4.58)***				(5.66)***		
ROA			1.789				1.059	
			(3.96)***				(1.98)**	
Loan Loss Provisions/Total Assets	-0.402	-0.172	0.808	-0.372	-0.650	-0.567	0.023	-0.672
	(0.83)	(0.33)	(1.59)	(0.74)	(1.35)	(1.17)	(0.04)	(1.37)
Lag Net Loan Growth	0.206	0.188	0.214	0.204	-0.025	-0.048	-0.025	-0.026
	(4.01)***	(3.45)***	(4.29)***	(3.95)***	(0.93)	(1.76)*	(0.92)	(0.97)
Region-Time-Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Bank Fixed Effects	NO	NO	NO	NO	YES	YES	YES	YES
Clustering by Bank	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1629	1629	1629	1629	1629	1629	1629	1629
R-squared	0.24	0.24	0.23	0.23	0.19	0.19	0.16	0.16

Table 8
Influence and Asymmetric Information: Funding from the Headquarters

This table looks at the effects of influence on funding from the headquarters for banks with different levels of asymmetric information vis-à-vis the headquarters. Asymmetries of information are proxied by using the standard deviation of deposit growth of a bank during the sample period. We assume that higher levels of this variable are associated with more frequent needs for information exchange between the bank and the headquarters due to more frequent incidences of large funding requests. We separate the sample into banks with low and high levels of asymmetric information based on whether the standard deviation of deposit growth is below or above the sample median (columns 1-4) and based on whether a bank is in the lowest or highest variable quartile. Positive Shock is a dummy that indicates a positive shock to deposit growth of a member bank in a given quarter. It is defined as an increase in deposit growth by one standard deviation above the median. Negative Shock is a dummy that indicates a negative shock to deposit growth of a member bank in a given quarter. It is defined as a decrease in deposit growth by one standard deviation below the median. For definitions of the variables see Appendix A1. The regressions use quarterly data from Q1 2005 to Q3 2007. All standard errors are clustered at the member bank level. Constants were included in the regressions but are not reported. Absolute values of robust t statistics are reported in parentheses, * denotes significant at 10%; ** significant at 5%; *** significant at 1%.

	Net HQ Funds/Total Assets					
	(1)	(2)	(3)	(4)	(5)	(6)
	Asymmetric Info Bank-HQ		Asymmetric Info Bank-HQ		Asymmetric Info Bank-HQ	
	Low (STD Dep. Growth ≤Median)	High (STD Dep. Growth >Median)	Low (STD Dep. Growth. ≤Median)	High (STD Dep. Growth >Median)	Low (Q1 STD Dep. Growth)	High (Q4 STD Dep. Growth)
Deposit Growth	-0.0004	-0.003			-0.001	-0.002
	(0.27)	(4.25)***			(0.37)	(3.42)***
Positive Shock			0.008	-0.025		
			(0.81)	(3.16)***		
Negative Shock			0.008	0.021		
			(0.61)	(2.42)**		
Influence	0.116	0.141	0.115	0.140	0.128	0.237
	(3.44)***	(3.46)***	(3.43)***	(3.47)***	(3.29)***	(3.23)***
Log(Total Assets)	0.061	0.078	0.060	0.078	0.071	0.110
	(2.61)**	(3.20)***	(2.59)**	(3.22)***	(2.15)**	(2.87)***
Solvency	-0.164	-0.152	-0.164	-0.152	-0.202	-0.156
	(4.74)***	(4.59)***	(4.72)***	(4.56)***	(3.50)***	(2.44)**
Bank Productivity	0.164	0.095	0.164	0.093	0.093	0.025
	(3.39)***	(1.52)	(3.38)***	(1.49)	(1.18)	(0.19)
Region-Time-Fixed Effects	YES	YES	YES	YES	YES	YES
Bank Fixed Effects	NO	NO	NO	NO	NO	NO
Clustering by Bank	YES	YES	YES	YES	YES	YES
Observations	900	910	900	910	450	460
R-squared	0.64	0.64	0.64	0.63	0.73	0.69

Table 9
Influence and Asymmetric Information: Net Loan Growth

Panel A of this table examines the effects of influence on net loan growth for banks with different levels of asymmetric information vis-à-vis the headquarters. Asymmetries of information are proxied by the standard deviation of deposit growth of a bank during the sample period. We assume that higher levels of this variable are associated with more frequent needs for information exchange between the bank and the headquarters due to more frequent incidences of large funding requests. We separate the sample into banks with low and high levels of asymmetric information based on whether the standard deviation of deposit growth is below or above the sample median (columns 1-8) and based on whether a bank is in the lowest or highest variable quartile. Panel B examines business and personal loan growth separately, assuming that business loans exhibit greater information asymmetry problems than personal loans (which are predominantly residential mortgage loans). Positive Shock is a dummy that indicates a positive shock to deposit growth of a member bank in a given quarter. It is defined as an increase in deposit growth by one standard deviation above the median. Negative Shock is a dummy that indicates a negative shock to deposit growth of a member bank in a given quarter. It is defined as a decrease in deposit growth by one standard deviation below the median. For definitions of the variables see Appendix A1. The regressions use quarterly data from Q1 2005 to Q3 2007. All standard errors are clustered at the member bank level. Constants were included in the regressions but are not reported. Absolute values of robust t statistics are reported in parentheses, * denotes significant at 10%; ** significant at 5%; *** significant at 1%.

Panel A:

	Net Loan Growth									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Asymmetric Info Bank-HQ		Asymmetric Info Bank-HQ		Asymmetric Info Bank-HQ		Asymmetric Info Bank-HQ		Asymmetric Info Bank-HQ	
	Low (STD Dep.Gr. ≤Median)	High (STD Dep.Gr. >Median)	Low (STD Dep.Gr. ≤Median)	High (STD Dep.Gr. >Median)	Low (STD Dep.Gr. ≤Median)	High (STD Dep.Gr. >Median)	Low (STD Dep.Gr. ≤Median)	High (STD Dep.Gr. >Median)	Low (Q1 STD Dep. Growth)	High (Q4 STD Dep. Growth)
Deposit Growth	0.213	0.256	0.183	0.195					0.137	0.333
	(2.32)**	(2.78)***	(2.14)**	(2.28)**					(1.26)	(2.62)**
Positive Shock					1.143	1.822	0.732	1.311		
					(1.10)	(2.26)**	(0.76)	(1.66)*		
Negative Shock					-0.656	-0.770	0.021	-0.830		
					(0.45)	(1.02)	(0.01)	(1.13)		
Influence	0.131	-0.433			0.040	-0.508			0.312	0.749
	(0.47)	(1.44)			(0.17)	(1.75)*			(0.60)	(1.24)
Deposit Growth * Influence	-0.084	-0.132	-0.087	-0.101					-0.013	-0.180
	(1.27)	(2.76)***	(1.42)	(2.10)**					(0.17)	(2.65)**
Positive Shock * Influence					-0.621	-1.465	-0.521	-1.161		
					(0.75)	(3.02)***	(0.70)	(2.46)**		
Negative Shock * Influence					-0.063	0.101	-0.301	0.168		
					(0.05)	(0.19)	(0.24)	(0.33)		
Bank Capital Growth	0.134	0.002	0.135	0.002	0.142	-0.014	0.142	-0.010	0.108	0.030
	(2.54)**	(0.09)	(2.58)**	(0.10)	(2.57)**	(0.89)	(2.56)**	(0.69)	(1.80)*	(1.56)
Log(Total Assets)	0.020	-0.396	5.398	1.500	-0.005	-0.395	5.967	2.935	0.132	0.022
	(0.14)	(2.52)**	(1.89)*	(0.38)	(0.03)	(2.40)**	(2.05)**	(0.77)	(0.41)	(0.08)
Solvency	-0.649	-1.836	-2.089	-8.534	-0.715	-1.917	-2.124	-8.245	-0.476	-1.395
	(1.95)*	(3.36)***	(2.30)**	(3.63)***	(2.10)**	(3.37)***	(2.29)**	(3.38)***	(0.77)	(1.68)*
Bank Productivity	0.881	1.925	-0.924	2.014	0.842	2.000	-0.955	1.821	1.242	2.330
	(2.20)**	(3.63)***	(1.13)	(1.57)	(2.18)**	(3.47)***	(1.18)	(1.46)	(1.66)	(3.47)***
Loan Loss Provisions/T.A.	-0.354	-0.192	-0.397	-0.740	-0.321	-0.505	-0.376	-1.053	-1.903	-1.411
	(0.38)	(0.27)	(0.34)	(0.87)	(0.31)	(0.66)	(0.31)	(1.18)	(1.76)*	(0.73)
Lag Net Loan Growth	0.283	0.136	0.040	-0.060	0.288	0.147	0.039	-0.059	0.282	0.064
	(6.22)***	(2.13)**	(0.85)	(1.24)	(6.35)***	(2.36)**	(0.82)	(1.21)	(3.41)***	(1.05)
Region-Time-Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank Fixed Effects	NO	NO	YES	YES	NO	NO	YES	YES	NO	NO
Clustering by Bank	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	810	819	810	819	810	819	810	819	405	414
R-squared	0.31	0.28	0.22	0.24	0.30	0.27	0.21	0.24	0.38	0.35

Panel B:	**Business Loan Growth**				**Personal Loan Growth**			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Deposit Growth	0.041	0.218	0.221		0.024	0.102	0.050	
	(1.48)	(3.38)***	(3.36)***		(1.95)*	(4.54)***	(2.36)**	
Positive Shock				2.424				0.752
				(3.46)***				(2.17)**
Negative Shock				-0.901				-0.109
				(0.91)				(0.35)
Influence		0.154		0.160		-0.108		-0.142
		(0.49)		(0.48)		(0.62)		(0.78)
Deposit Growth * Influence		-0.119	-0.134			-0.052	-0.024	
		(2.70)***	(3.04)***			(3.39)***	(1.84)*	
Positive Shock * Influence				-2.197				-0.489
				(4.52)***				(1.84)*
Negative Shock * Influence				0.370				-0.010
				(0.50)				(0.04)
Bank Capital Growth	0.008	0.039	0.085	0.025	-0.009	0.003	-0.004	-0.002
	(0.34)	(1.37)	(2.65)***	(1.05)	(0.92)	(0.20)	(0.42)	(0.22)
Log(Total Assets)	-0.010	-0.029	1.455	-0.010	-0.076	-0.177	2.395	-0.177
	(0.08)	(0.14)	(0.46)	(0.05)	(1.02)	(1.55)	(2.04)**	(1.50)
Solvency	-1.526	-1.502	-5.539	-1.601	-0.895	-0.958	-1.612	-0.976
	(3.83)***	(3.54)***	(4.05)***	(3.64)***	(4.20)***	(4.34)***	(2.73)***	(4.35)***
Bank Productivity	2.857	2.759	2.700	2.770	0.948	0.997	0.110	1.011
	(5.48)***	(4.82)***	(1.69)*	(4.80)***	(3.61)***	(3.43)***	(0.23)	(3.39)***
Loan Loss Provisions/Total Assets	-0.499	-0.437	-0.019	-0.657	-0.258	-0.204	-0.444	-0.262
	(0.60)	(0.53)	(0.02)	(0.78)	(0.81)	(0.63)	(1.23)	(0.79)
Lag Net Loan Growth	0.131	0.126	-0.075	0.141	0.195	0.192	0.053	0.195
	(2.60)**	(2.46)**	(1.33)	(2.79)***	(6.71)***	(6.43)***	(2.37)**	(6.52)***
Region-Time-Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Bank and Time Fixed Effects	NO	NO	YES	NO	NO	NO	YES	NO
Clustering by Bank	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1629	1629	1629	1629	1629	1629	1629	1629
R-squared	0.13	0.13	0.10	0.14	0.26	0.27	0.15	0.26

Table 10
More Influential Banks Perform Better

This table presents regressions of bank performance on our measure of member bank influence and a set of controls. The performance measure and dependent variable in column 1-2 is Bank Productivity, in column 3-4 return on equity (ROE), and in column 5-6 return on assets (ROA). For definitions of the variables see Appendix A1. The regressions use quarterly data from Q1 2005 to Q3 2007. All standard errors are clustered at the member bank level. Constants were included in the regressions but are not reported. Absolute values of robust t statistics are reported in parentheses, * denotes significant at 10%; ** significant at 5%; *** significant at 1%.

	Bank Productivity		**ROE**		**ROA**	
	(1)	(2)	(3)	(4)	(5)	(6)
Log(Total Assets)	0.039	0.121	0.553	1.295	0.022	0.052
	(2.37)**	(4.15)***	(2.68)***	(3.45)***	(1.73)*	(2.48)**
Influence		0.162		1.453		0.060
		(3.80)***		(2.61)***		(1.95)*
Solvency	0.137	0.194	3.047	3.558	0.221	0.242
	(2.48)**	(3.41)***	(4.90)***	(5.70)***	(5.95)***	(6.47)***
Loan Loss Provisions/Total Assets	0.112	0.081	-1.996	-2.276	-0.570	-0.582
	(1.35)	(1.19)	(0.93)	(1.04)	(4.92)***	(5.06)***
Lag Net Loan Growth	0.021	0.020	0.532	0.523	0.012	0.012
	(4.99)***	(5.05)***	(7.41)***	(7.22)***	(4.06)***	(4.07)***
Region-Time-Fixed Effects	YES	YES	YES	YES	YES	YES
Bank Fixed Effects	NO	NO	NO	NO	NO	NO
Clustering by Bank	YES	YES	YES	YES	YES	YES
Observations	1629	1629	1629	1629	1629	1629
R-squared	0.25	0.31	0.32	0.34	0.69	0.70

Figure 1
Time Series of Aggregate Net Loan and Deposit Growth at the Banking Group Level

This figure shows the time series of deposit and net loan growth aggregated at the banking group level. Both variables are calculated by aggregating the net loans and deposits over all member banks. It is observed that at the banking group level aggregate net loan growth is much more volatile than aggregate deposit growth.

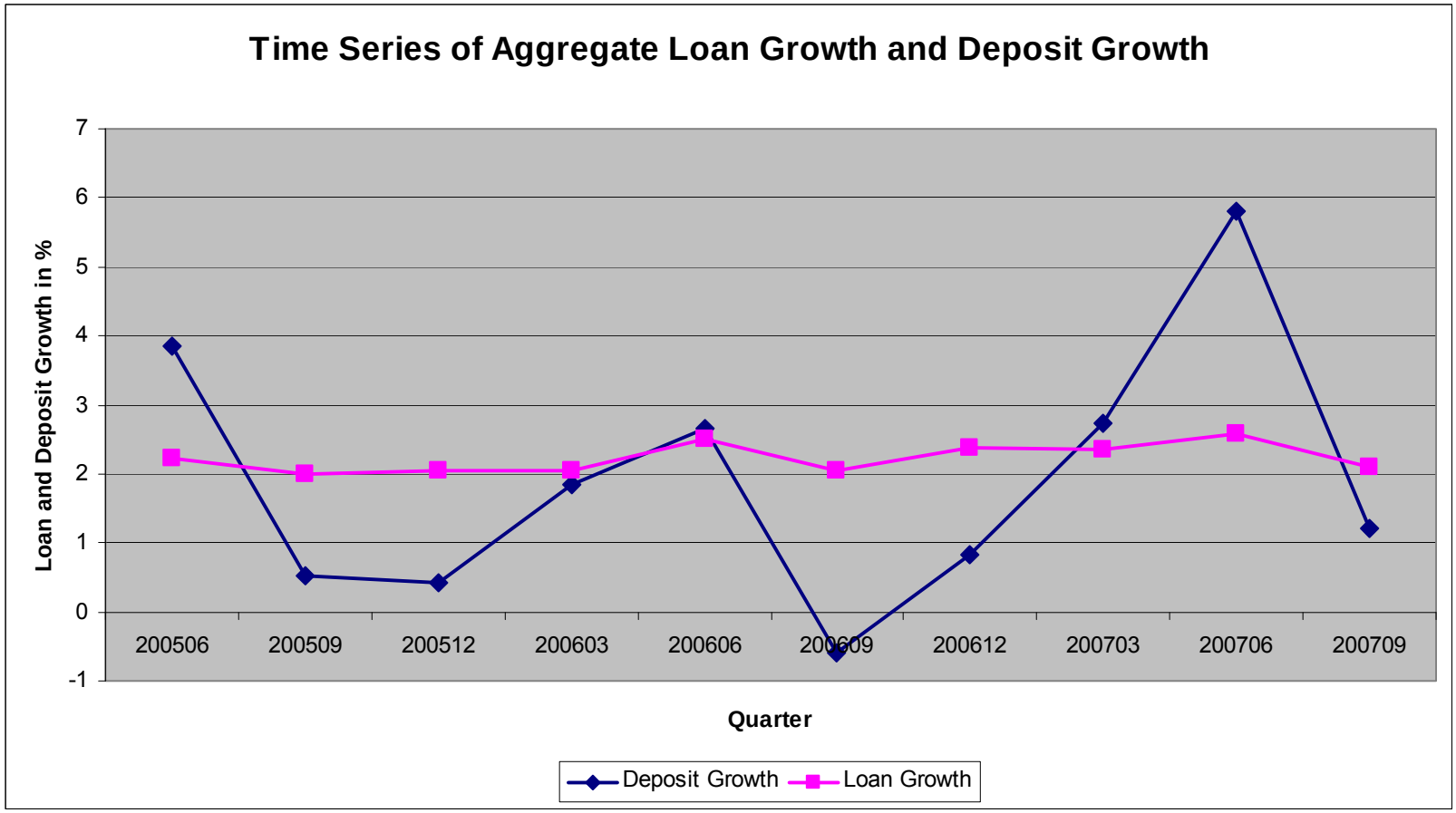


Figure 2
Distribution of Voting Rights in the Banking Group

This figure shows the distribution of voting rights in the banking group. Voting rights are constant over time and vary across member banks between a minimum of 1 vote and a maximum of 10 votes. The figure shows, for example, that 32% of the banks in the sample have 7 votes. The group consists of more than 150 member banks.

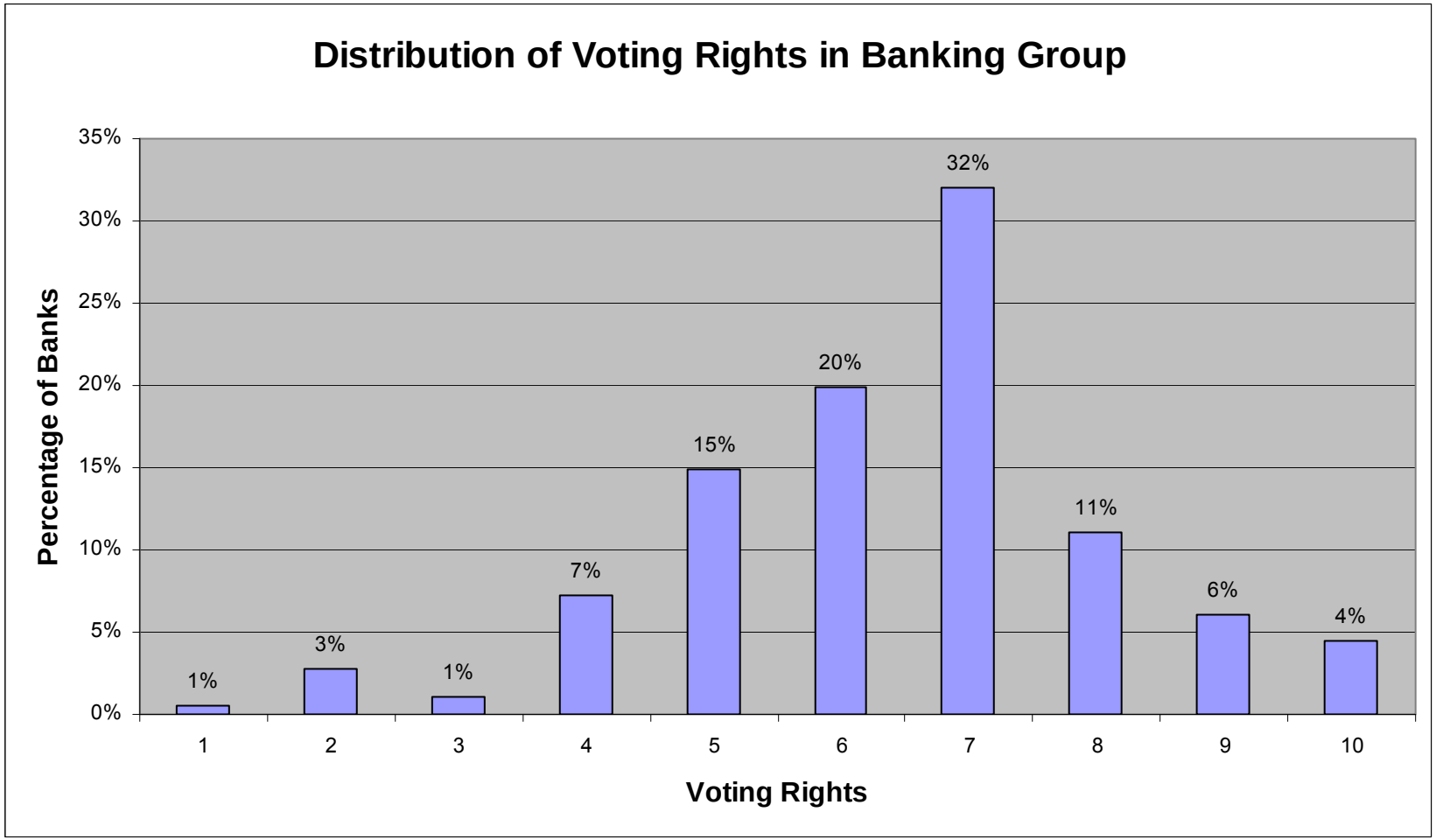


Figure 3
Distribution of Influence in the Banking Group

Figure 3-A shows the non-linear relation between member bank size (measured by total assets of a bank) and the number of voting rights (left axis). It also shows the relation between member bank size and ownership rights (in %, right axis). Figure 3-B plots the relation between the Influence variable and bank size. Influence is the share of voting rights of a bank divided by the share of ownership rights of a member bank in the headquarters. The observations in the figure are based on values at the third quarter of the year 2007.

Figure 3-A:

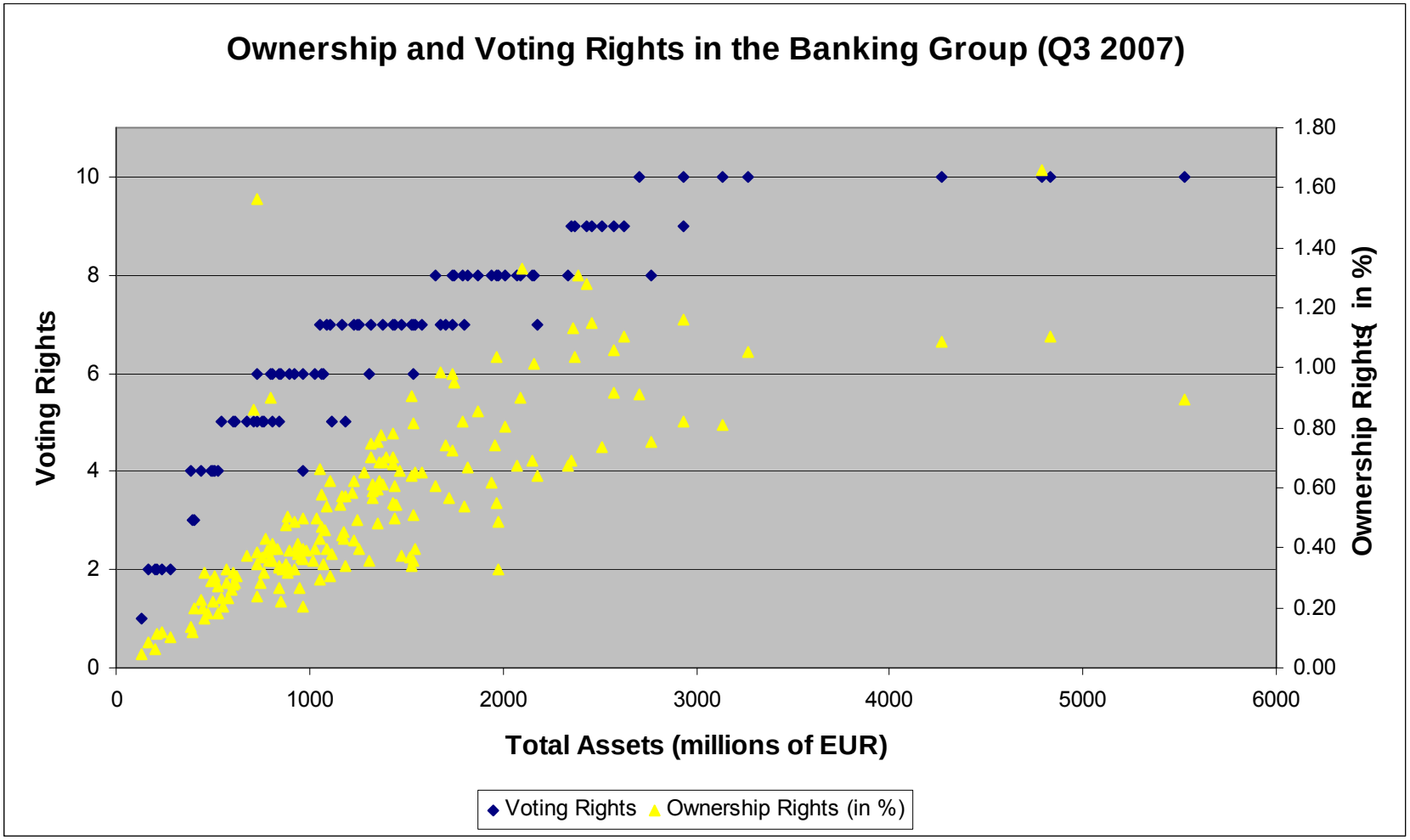


Figure 3-B:

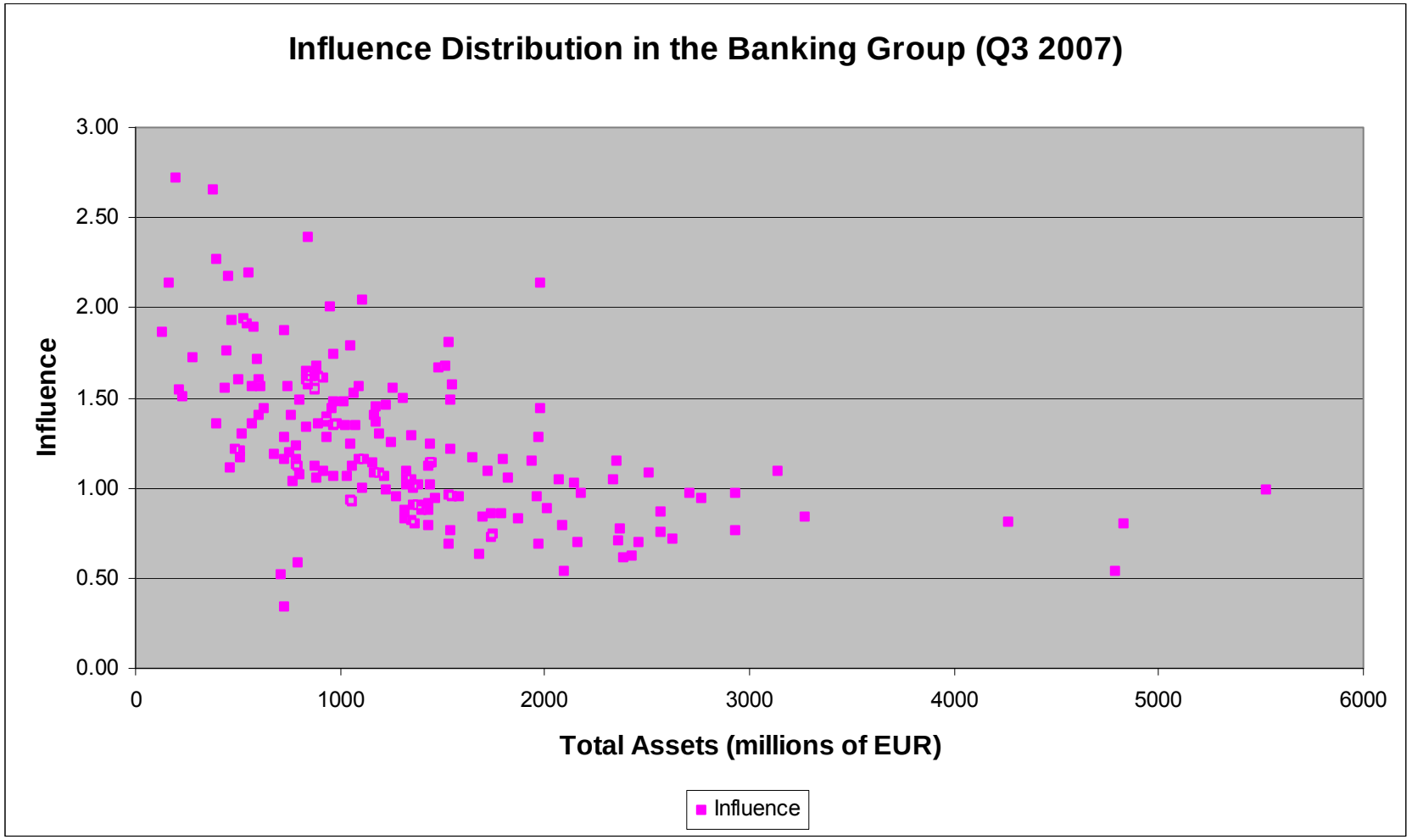
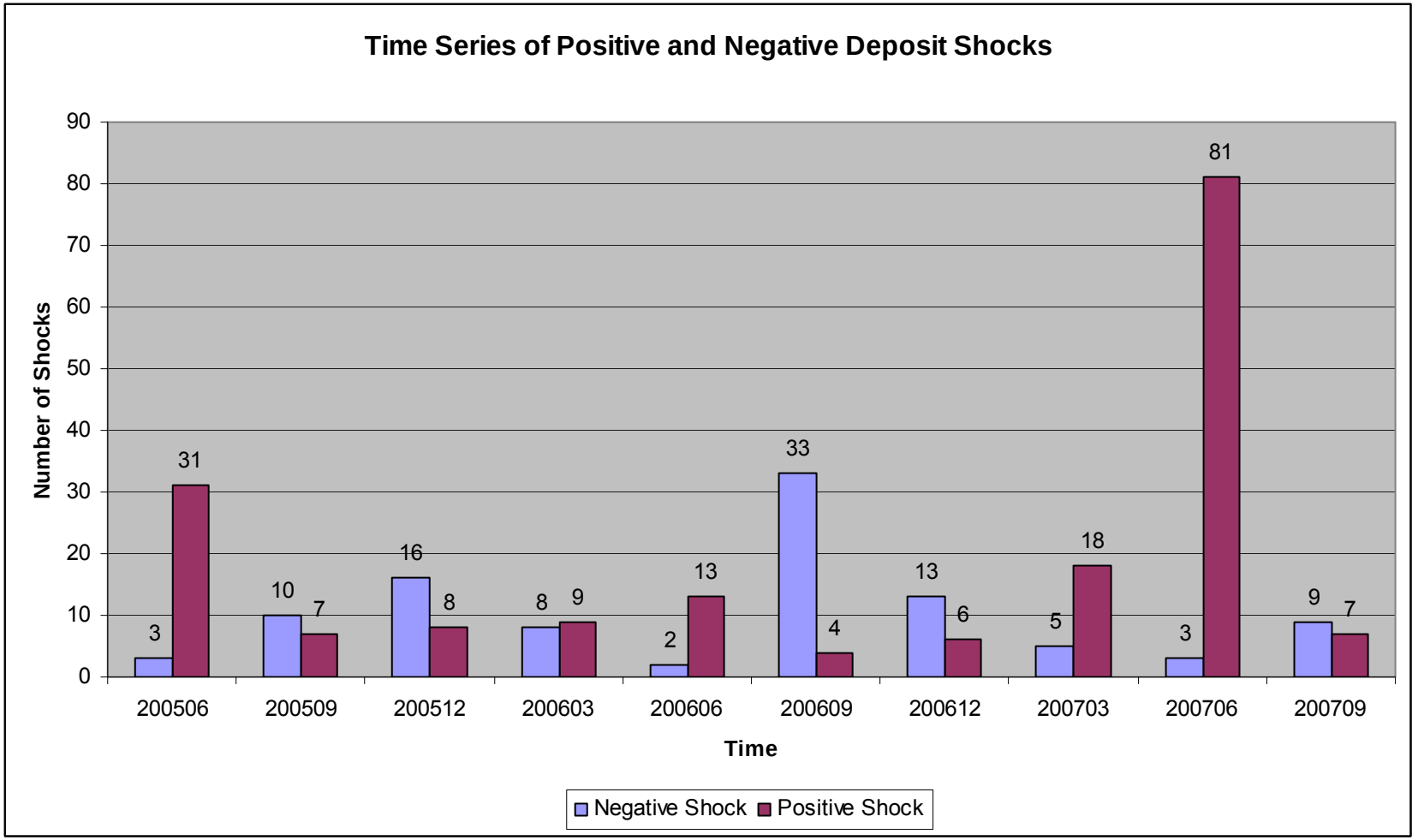

Influence Distribution in the Banking Group (Q3 2007)
Influence
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0
1000
2000
3000
4000
5000
6000
Total Assets (millions of EUR)
Influence

Figure 4
Time Series Distribution of Deposit Shocks

This figure shows the time series distribution of the positive and negative deposit shocks during the sample period. Positive Shock is a dummy that indicates a positive shock to deposit growth of a bank in a given quarter. It is defined as an increase in deposit growth by one standard deviation above the median. Negative Shock is a dummy that indicates a negative shock to deposit growth of a bank in a given quarter. It is defined as a decrease in deposit growth by one standard deviation below the median. In total there were 184 positive deposit shocks and 102 negative deposit shocks. In the second quarter of 2007, many member banks received large influx of deposits because the banking group was considered safer than its peers.



Appendix

Appendix A1
Definition of Variables

This table provides definitions of the main variables in our data set.

Variable	Definition
Total Assets	Total assets of a member bank in t (in 1,000 Euro)
Deposits	Total deposits taken by a member bank in t from customers (in 1,000 EUR). It is the sum of transaction account deposits, term deposits and savings deposits
Transaction Account Deposits	Deposits taken by a member bank in t through transaction accounts of customers (in 1,000 EUR)
Term Deposits	Deposits taken by a member bank in t through term deposit accounts of customers (in 1,000 EUR)
Savings Deposits	Deposits taken by a member bank in t through savings accounts of customers (in 1,000 EUR)
Loans	Total outstanding loans provided by a member bank in t (in 1,000 EUR)
Net Loan Growth	Growth in loans in period t measured as log of loans in t minus log of loans in t-1, multiplied by 100
Business Loan Growth	Growth in loans to business customers in period t measured as log of loans in t minus log of loans in t-1, multiplied by 100
Personal Loan Growth	Growth in loans to private customers in period t measured as log of loans in t minus log of loans in t-1, multiplied by 100
Funds from HQ	Funds/loans extended by the headquarters to a member bank in t (in 1,000 EUR)
Deposits at HQ	Money deposited at the headquarters by a member bank in t (in 1,000 EUR)
Net HQ Funds	Difference between Funds from HQ and Deposits at the HQ; a measure of the net amount of funds extended by the headquarters to a member bank in t (in 1000 EUR)
Year of Foundation	Year in which a member bank was founded
STD Deposit Growth	Standard deviation in deposit growth of a bank (measured over the sample period) and a proxy for information asymmetries between the headquarters and a member bank
Net Provider of Funds	Dummy variable that takes the value 1 if a bank is net provider of funds (i.e. Net Funds from HQ<0) in t
Net Receiver of Funds	Dummy variable that takes the value 1 if a bank is net receiver of funds (i.e. Net Funds from HQ>=0) in t
Bank Capital	Equity of a bank in t (in 1,000 EUR)
Bank Productivity	Ratio of total income to total costs in t
Solvency	Actual capital of a member bank divided by the capital required for banking supervision purposes in t
Loan Loss Provisions	Loan loss provisions in t (in 1,000 EUR)
ROE	Return on equity in t and measured as net income over equity (in %)
ROA	Return on assets in t defined as net operating income over total assets (in %)
Influence	Measures the disproportionate influence of a member bank in the group and is defined as the member bank's share of voting rights in the group divided by its share of ownership rights. Value of 1 indicates fair influence while values greater than 1 indicate disproportionate influence
Voting Rights	Measures the number of votes in the headquarters held by a member bank. The variable ranges between 1 and 10.
Ownership Rights	Measures the number of shares held by a bank in the headquarters divided by the total number of shares outstanding (number reported in %).
Positive Shock	Dummy that indicates a positive shock to deposit growth of a bank in a given quarter. It is defined as an increase in deposit growth by one standard deviation above the median in t. In some tables, we also use half a standard deviation shocks and indicate this in the tables.
Negative Shock	Dummy that indicates a negative shock to deposit growth of a bank in a given quarter. It is defined as a decrease in deposit growth by one standard deviation below the median in t. In some tables, we also use half a standard deviation shocks and indicate this in the tables.

Appendix A2
Correlations Matrix

This table provides pair-wise correlations between the main variables in our data set. For definitions of the variables see Appendix A. * denotes significant at 10%; ** significant at 5%; *** significant at 1%.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Total Assets (1)	1															
Deposit Growth (2)	0.05**	1														
Transaction Account Dep. Growth (3)	0.00	0.75***	1													
Term Deposit Growth (4)	-0.01	0.15***	-0.05**	1												
Savings Deposit Growth (5)	-0.08***	0.24***	0.11***	-0.31***	1											
Net Loan Growth (6)	0.11***	0.18***	0.09***	0.04*	0.13***	1										
Bank Capital Growth (7)	-0.01	0.08***	0.05**	0.04*	0.10***	0.08***	1									
Bank Productivity (8)	0.07***	0.08***	0.03	-0.04*	-0.05**	0.17***	0.06***	1								
Solvency (9)	-0.35***	-0.07***	-0.03	0.03	-0.03	-0.20***	0.00	0.05**	1							
Loan Loss Prov./Total Assets (10)	0.02	-0.14***	-0.11***	0.03	0.07***	0.02	0.56***	-0.03	-0.07***	1						
ROE (11)	0.02	0.11***	0.05**	-0.04*	-0.04	0.19***	0.09***	0.75***	0.18***	-0.16***	1					
ROA (12)	-0.04**	-0.11***	-0.17***	-0.15***	-0.02	0.04	0.05**	0.48***	0.25***	-0.17***	0.51***	1				
Influence (13)	-0.55***	0.03	0.01	0.02	0.04*	0.05**	-0.01	0.12***	-0.09***	0.04**	-0.00	-0.02	1			
Voting Rights (14)	0.87***	0.02	-0.01	-0.05**	-0.03	0.05**	0.01	0.12***	-0.31***	0.01	0.08***	-0.01	-0.61***	1		
Ownership Rights (15)	0.77***	-0.03	-0.01	-0.04	-0.06***	-0.02	-0.00	-0.05**	-0.03	-0.03	0.01	0.02	-0.84***	0.80***	1	
Net HQ Funds/Total Assets (16)	0.20***	-0.05*	-0.04*	0.00	-0.02	0.11***	0.00	0.29***	-0.49***	0.07***	0.00	-0.05***	0.26***	0.20***	-0.11***	1
Net HQ Funds Growth (17))	0.03	-0.57***	-0.45***	-0.05*	-0.17***	0.29***	0.14***	0.02	-0.03	0.17***	0.01	0.10***	-0.02	0.03	0.04	0.09***

Appendix A3
Decomposition of Net Funds from the Headquarters

This table decomposes net funds from the headquarters (which was defined as the difference between funds from the headquarters and deposits at the headquarters). In columns 1-3 of Panel A, the dependent variable is gross funds from the headquarters divided by total assets of a bank. In columns 4-6 of panel A, the dependent variable is gross deposits at the headquarters divided by total assets of a bank. In the columns 1- 3 of Panel B, the dependent variable is growth in gross funds from the headquarters, and in columns 4-6 growth in gross deposits at the headquarters. The growth variables are winsorized at 5% and 95%. Our measure of influence is the disproportionate influence of a member bank in the group. It is defined as the share of voting rights divided by the share of ownership rights of a member bank in the headquarters. For definitions of the variables see Appendix A1. The regressions use quarterly data from Q1 2005 to Q3 2007 for about 150 banks. All standard errors are clustered at the bank level. Constants were included in the regressions but are not reported. Absolute values of robust t statistics are reported in parentheses, * denotes significant at 10%; ** significant at 5%; *** significant at 1%.

Panel A:	**Funds from HQ/Total Assets**			**Deposits at HQ/Total Assets**		
	(1)	(2)	(3)	(4)	(5)	(6)
Deposit Growth	-0.002	-0.002	-0.002	0.001	0.001	0.001
	(3.40)***	(4.37)***	(3.50)***	(3.70)***	(4.04)***	(3.82)***
Influence		0.117	0.044		-0.020	-0.010
		(4.83)***	(3.31)***		(2.40)**	(2.34)**
Log(Total Assets)	0.003	0.065		0.002	-0.009	
	(0.41)	(4.25)***		(0.53)	(1.44)	
Solvency	-0.165	-0.117	-0.168	0.041	0.033	0.040
	(8.03)***	(6.63)***	(7.97)***	(4.22)***	(2.87)***	(4.03)***
Bank Productivity	0.148	0.087	0.140	-0.049	-0.038	-0.045
	(5.26)***	(2.94)***	(4.99)***	(3.94)***	(2.77)***	(3.67)***
Region-Time-Fixed Effects	YES	YES	YES	YES	YES	YES
Bank Fixed Effects	NO	NO	NO	NO	NO	NO
Clustering by Bank	YES	YES	YES	YES	YES	YES
Observations	1810	1810	1810	1810	1810	1810
R-squared	0.55	0.65	0.58	0.27	0.30	0.29

Panel B:	**Funds from HQ Growth**			**Deposits at HQ Growth**		
	(1)	(2)	(3)	(4)	(5)	(6)
Deposit Growth	-0.424	-0.423	-0.424	1.112	1.112	1.112
	(4.71)***	(4.70)***	(4.70)***	(5.81)***	(5.82)***	(5.81)***
Influence		-0.393	-0.100		0.002	0.138
		(0.60)	(0.25)		(0.00)	(0.42)
Log(Total Assets)	-0.054	-0.263		-0.123	-0.123	
	(0.19)	(0.59)		(0.41)	(0.22)	
Solvency	-2.653	-2.816	-2.612	1.898	1.898	1.994
	(3.47)***	(3.47)***	(3.73)***	(2.55)**	(2.28)**	(2.91)***
Bank Productivity	4.450	4.655	4.444	-0.593	-0.594	-0.692
	(4.90)***	(4.70)***	(4.94)***	(0.48)	(0.46)	(0.56)
Region-Time-Fixed Effects	YES	YES	YES	YES	YES	YES
Bank Fixed Effects	NO	NO	NO	NO	NO	NO
Clustering by Bank	YES	YES	YES	YES	YES	YES
Observations	1810	1810	1810	1810	1810	1810
R-squared	0.27	0.27	0.27	0.25	0.25	0.25

Appendix A4
Robustness Checks: Separation of Sample Based on Size, Ownership Rights and Voting Rights

This table decomposes the sample based on bank size (total assets), ownership rights and voting rights in two groups each. In Panel A, the dependent variable is net funds from the headquarters divided by total assets of a bank. In Panel B, the dependent variable is net loan growth. Our measure of influence is the disproportionate influence of a member bank in the group. It is defined as the share of voting rights divided by the share of ownership rights of a member bank in the headquarters. For definitions of the variables see Appendix A1. The regressions use quarterly data from Q1 2005 to Q3 2007. All standard errors are clustered at the bank level. Constants were included in the regressions but are not reported. Absolute values of robust t statistics are reported in parentheses, * denotes significant at 10%; ** significant at 5%; *** significant at 1%.

Panel A:

	Net HQ Funds/Total Assets					
	(1)	(2)	(3)	(4)	(5)	(6)
	Bank Size (Total Assets)		Ownership Rights		Voting Rights	
	< median	≥ median	< median	≥ median	< median	≥ median
Deposit Growth	-0.004	-0.003	-0.002	-0.004	-0.004	-0.003
	(3.71)***	(3.87)***	(3.34)***	(3.62)***	(3.93)***	(4.21)***
Influence	0.126	0.191	0.154	0.086	0.121	0.194
	(6.37)***	(2.30)**	(3.88)***	(1.60)	(5.69)***	(2.77)***
Log(Total Assets)	0.055	0.065	0.075	0.043	0.041	0.072
	(4.05)***	(1.41)	(2.89)***	(1.46)	(2.99)***	(1.62)
Solvency	-0.129	-0.133	-0.146	-0.192	-0.115	-0.145
	(4.94)***	(2.21)**	(5.17)***	(4.45)***	(4.23)***	(2.75)***
Bank Productivity	0.147	0.085	0.106	0.177	0.137	0.098
	(3.24)***	(1.26)	(1.71)*	(3.90)***	(2.78)***	(1.54)
Region-Time-Fixed Effects	YES	YES	YES	YES	YES	YES
Bank Fixed Effects	NO	NO	NO	NO	NO	NO
Clustering by Bank	YES	YES	YES	YES	YES	YES
Observations	900	910	900	910	840	970
R-squared	0.71	0.58	0.66	0.65	0.71	0.60

Panel B:

	Net Loan Growth											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Bank Size (Total Assets)		Ownership Rights		Voting Rights		Bank Size (Total Assets)		Ownership Rights		Voting Rights	
	< median	≥ median	< median	≥ median	< median	≥ median	< median	≥ median	< median	≥ median	< median	≥ median
Deposit Growth	0.384	0.270	0.200	0.418	0.431	0.258	0.260	0.220	0.113	0.338	0.287	0.215
	(2.56)**	(2.77)***	(2.29)**	(2.56)**	(2.67)***	(2.80)***	(1.77)*	(2.34)**	(1.26)	(2.12)**	(1.81)*	(2.32)**
Influence	0.239	-0.248	-0.095	0.441	0.279	-0.122						
	(0.71)	(0.75)	(0.32)	(0.88)	(0.85)	(0.39)						
Deposit Growth*Influence	-0.225	-0.139	-0.113	-0.253	-0.243	-0.139	-0.166	-0.108	-0.072	-0.194	-0.174	-0.114
	(2.45)**	(2.96)***	(2.50)**	(1.76)*	(2.50)**	(3.03)***	(1.84)*	(2.39)**	(1.58)	(1.34)	(1.83)*	(2.37)**
Bank Capital Growth	0.012	0.017	0.033	-0.029	-0.006	0.024	0.023	0.010	0.034	0.007	0.002	0.021
	(0.20)	(0.99)	(2.34)**	(0.77)	(0.10)	(1.48)	(0.42)	(0.59)	(2.08)**	(0.18)	(0.04)	(1.20)
Log(Total Assets)	-0.196	0.272	-0.364	0.214	-0.211	0.266	7.334	-0.647	8.861	-2.990	7.935	-0.595
	(0.99)	(1.04)	(2.11)**	(0.92)	(1.17)	(1.03)	(1.81)*	(0.22)	(1.78)*	(1.21)	(1.84)*	(0.22)
Solvency	-1.295	-1.735	-1.167	-1.754	-1.251	-1.710	-4.417	-5.423	-4.188	-5.913	-4.550	-5.221
	(2.17)**	(4.00)***	(2.08)**	(4.15)***	(2.03)**	(4.00)***	(2.72)***	(2.22)**	(2.42)**	(2.95)***	(2.71)***	(2.22)**
Bank Productivity	1.864	1.653	1.816	1.576	1.722	1.716	1.176	0.264	0.978	0.849	0.695	0.531
	(2.84)***	(3.95)***	(2.75)***	(4.08)***	(2.57)**	(4.07)***	(1.00)	(0.31)	(0.75)	(0.91)	(0.51)	(0.60)
Loan Loss Provisions/T.A.	-0.183	-1.101	-0.484	-0.732	-0.438	-0.858	0.032	-1.338	-0.064	-0.928	-0.328	-1.043
	(0.22)	(1.86)*	(0.60)	(1.23)	(0.50)	(1.67)*	(0.03)	(1.97)*	(0.06)	(1.64)	(0.28)	(1.86)*
Lag Net Loan Growth	0.225	0.151	0.239	0.145	0.235	0.152	-0.026	-0.023	0.001	-0.069	-0.011	-0.034
	(2.64)***	(2.84)***	(3.04)***	(2.94)***	(2.74)***	(2.86)***	(0.43)	(0.66)	(0.03)	(2.16)**	(0.18)	(0.99)
Region-Time-Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank Fixed Effects	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES
Clustering by Bank	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	810	819	810	819	756	873	810	819	810	819	756	873
R-squared	0.27	0.33	0.23	0.37	0.29	0.32	0.21	0.24	0.20	0.27	0.24	0.23